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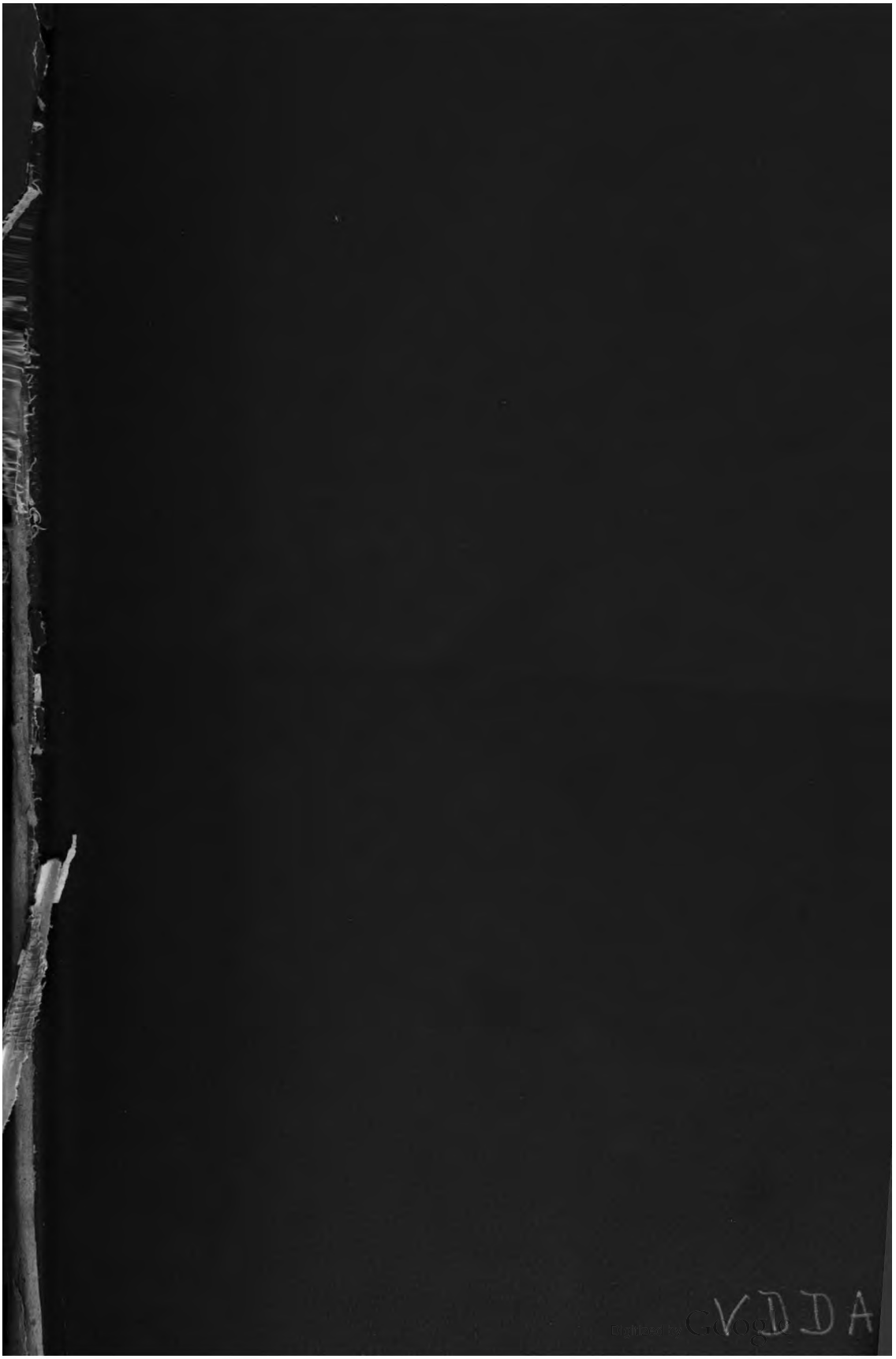


Annual report - Chicago Public Works

Chicago (Ill.). Dept. of Public Works

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Chicago

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Carter H. Harrison

Mayor

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MAYOR'S ANNUAL MESSAGE

AND THE

TWENTY-SECOND ANNUAL REPORT

OF THE

DEPARTMENT OF

PUBLIC WORKS

TO THE

CITY COUNCIL OF THE CITY OF CHICAGO,

FOR THE

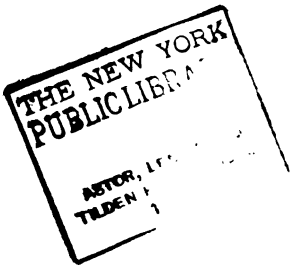
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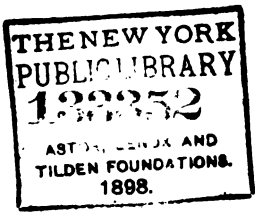
1897.

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1898.

THE CITY CLERK

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44

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MESSAGE OF

MAYOR HARRISON

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MESSAGE OF MAYOR HARRISON.

To the Honorable, the City Council of the City of Chicago:

GENTLEMEN—I hereby comply with the charter provision requiring a presentation by the Mayor of a survey of the working of the City government at the end of each municipal year, marked by the annual termination of office of half the City Council.

It must be a matter of pride to the outgoing membership of your honorable body, as it undoubtedly is a subject on which the people of Chicago are to be congratulated, that a scrutiny of the records of the Council proceedings for 1897–8 will reveal a remarkable scarcity of vicious legislation. It has been my pleasant privilege to participate in the effort to make such legislation scarce, and I promise the new members that the exercise of that privilege on my part will not terminate tonight. It is a matter for further congratulation that the Council of 1897-8 has not been content with being merely negatively good; its treatment of such matters of momentous importance as track elevation, the intercepting sewer project, the extension of the electric light system, the new building ordinance, water office reform and the garbage question stands decidedly to its credit.

A year ago, when assuming the duties of Mayor, in my inaugural address to this body, I expressed the hope that, notwithstanding all the horrors predicted by our opponents as certain to be the offspring of our Democratic administration, we

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would succeed, not only in not lowering, but in elevating the financial standing of our City. Facts are stubborn things, figures do not lie, and facts and figures show that Chicago's credit to-day is equal to that of the best in the land. Here are a few illustrations in this connection:

MEMORANDUM

OF

ACCOMPLISHMENTS OF COMPTROLLER

DURING 1897.

1. Seven per cent. 20-year Gold Bonds, amounting to $100,000.00, refunded, through issuance and sale of similar bonds bearing interest at the low rate of 3½% per annum. A saving has thus been effected for the City, in interest charges, amounting to $3,500.00 annually for the next twenty years. These refunding bonds were sold at a premium of 1.0366, the highest premium for such bonds ever obtained by the City.
2. All time warrants bearing 6% interest called in and paid and new warrants issued at 5%, thereby effecting a saving of one per cent. on entire issue (an annual saving of about $25,000.00). An arrangement made with the banks by which these warrants were taken by them at par, thus enabling the Comptroller to pay contractors and other creditors in cash. This is an innovation in the history of City finances and redounds to the credit of the City.
3. Bonded debt reduced by retirement and cancellation of bonds amounting to $65,000.00. Provision has been made for the retirement of other bonds on January 1st, 1898, amounting to $82,000.00.
4. Plans have been established for bringing old Special Assessment accounts up to date and the work is now under way. When this work is accomplished all rebates will be correctly ascertained and certified and tax payers will be protected from tax sharks.
5. A more rigid supervision of the departments in the expenditures of their appropriations has been established and maintained.
6. The Comptroller has insisted in all cases upon the approval of salaries by the Civil Service Commission before payment.
7. A general reorganization of the Comptroller's office was made early in the year. A thorough checking system was introduced for the safeguarding of accounts. Banking methods were adopted and improvements made for the convenience of the public.

In reviewing the work of the year, and in bunching results, one is challenged on every hand with the obstacles arising from the inadequacy of revenue, and with the difficulties growing out of technical legal intervention.

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It is hardly necessary to repeat here that the revenue of the City from taxation is insufficient to pay the expenses of an adequate Police and Fire Department alone. Still it may not be unprofitable to remind unthinking citizens of the certainty of this fact. If the average citizen, as Comptroller Waller points out in his annual report, could realize the fact that such absurd amounts are appropriated as are made necessarily small by the limitations of our revenue, he would not be surprised that our streets and alleys are not better cleaned, that our bridges and public works are not kept in better repair and that our thoroughfares are not more generally lighted. It is true that a new revenue law has been passed by the Legislature, but it is well to remember that this City will not benefit by the fruits of that law until 1900. In the meantime we have only to struggle along under the adverse conditions that admittedly exist at present.

Another great drawback to the proper administration and growth of the City is in the fact that the funded or bonded debt is limited to an insignificant sum compared with the importance of the municipality and its necessities. It is this limitation which has made necessary many of the burdensome special assessment taxes, under which our citizens are groaning, and which almost confiscate the property of our poorer people by compelling the present generation to provide for the wants and necessities of generations to come.

It is this limitation, also, which prevents the City from establishing and extending the many permanent improvements necessary for its welfare and beauty. Under the present limitation of our funded debt, we cannot incur an indebtedness in excess of eleven millions of dollars and the new law will limit that indebtedness to $10,000,000.00.

When we consider that this great City possesses in its own right, property, buildings, etc., amounting in value at cost to more than fifty-nine millions of dollars (a conservative estimate

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of the present cash value is in my opinion $85,000,000.00) and that these resources constitute, as will be seen in the statement of Assets and Liabilities further on, a surplus of more than $40,000,000.00 over its entire indebtedness, we can understand the insignificance of a bonded debt limited to ten millions of dollars. Any business corporation making such a financial showing could issue bonds to the extent of $30,000,000.00 and sell them in any of the world's markets at the minimum rate of interest. All permanent improvements of the City should be constructed from the proceeds of bond sales, as they benefit not only the present but future generations, who, in justice and equity, should bear their proportion of the expense. As matters now stand we have reached the limit of our indebtedness and can make no permanent improvements of any kind except by special taxation.

The following is a statement of the estimated income and appropriations for the year 1897, showing the absurdly small amounts allowed the Executive for cleaning streets and alleys, street lighting, etc., during that year, as well as the loss or reduction of the general fund during the year:

INCOME.

Equalized valuation	$ 244,357,286 00		
Two per cent. on above		$ 4,887,145 72	
Less 3 per cent. for non-collection		146,614 37	
Total income from taxation			$ 4,740,531 35
From miscellaneous sources—mainly saloon licenses			3,553,312 91
Total income for corporate purposes for 1897			$ 8,293,844 26

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Expenditures as per appropriations made by City Council:

Contingent expense	$ 8,000 00
City cemetery	100 00
City clerk's expense	15,000 00
Civil Service Commission	35,000 00
Costs of collecting City taxes	102,000 00
Repairing improved streets	155,000 00
Street and alley cleaning	622,875 00
For improved streets	115,000 00
For sidewalks and intersections	55,000 00
For Canal pumping works	52,500 00
For Chicago harbor	5,490 00
For bridge and viaduct repairs and maintenance	100,000 00
For Rush street bridge approach	4,149 00
For Archer avenue bridge	10,000 00
For Holstein park	1,500 00
For Fullerton avenue conduit	14,225 00
For bridge tenders' salaries	89,615 00
For public buildings	40,000 00
For janitors' salaries	44,648 00
For parks	10,400 00
For Bridgeport lock	3,000 00
For Street Department, salaries	14,730 00
For Map Department, salaries	16,290 00
For City Engineer's Department, salaries	12,430 00
For Commissioner's office, salaries	12,490 00
For steam roller, salaries	1,800 00
For street openings and obstructions	7,200 00
For Street Department office expense	1,000 00
For Map Department office expense	1,000 00
For City Engineer's office expense	500 00
For proportional office expense	1,750 00
For public benefits	1,000 00
For street lamp repairs	40,000 00
For sewer in Fifty-ninth street	450 00
For artesian well	1,046 00
For vessel dispatchers' salaries	1,980 00
For bridge telephone	7,980 00
For North Halsted Street bridge	10,500 00
For election expense	125,000 00
For Fire Department	1,562,520 50
For Health Department	171,220 00
For House of Correction	95,000 00
For judgment account	300,000 00
For legal expense	35,000 00
For police court expense	2,000 00
For Police Department	3,356,910 00
For printing and stationery	8,000 00
For salaries	243,890 00

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For Sewerage Department	$ 193,065 56	
For gas, oil and electric lighting	600,000 00	
For special assessments on City property	10,000 00	
Total		$ 8,318,254 06
To this add additional expenses of 1897		296,883 84
Total for corporate purposes		$ 8,615,137 90

RECAPITULATION.

Total expenses for corporate purposes	$ 8,615,137 90	
Total income	8,293,844 26	
Expenses over income during 1897		$321,293 64
To this add receipts of January, 1897, misappropriated by the last administration and credited to 1896 accounts		739,486 03
Total reduction of general or surplus fund during 1897		$ 1,060,779 67

Instead of sitting down and weeping over the insufficiency of revenue the administration tackled the task of giving the City more light, of inaugurating an intercepting sewer system which will result in giving the City absolutely pure water, in arranging for the establishment of what was regarded as an almost perfect garbage system, and in seeing to it that track elevation should be a fact and not a theory. The question of pure water is one that most vitally affects the people, and one that will continue to be agitated until every particle of the sewage of the City is diverted from the lake.

I am pleased to inform you that within sixty days from this date at least 40 per cent of the amount of sewage now polluting the waters of Lake Michigan will have been diverted therefrom into the river. The contracts for the construction of sewers to change the flow of sewage from the Twelfth and Twenty-second street systems were let March 8th, 1897, the work to be completed the first day of next June. The work is progressing in such manner as to justify the belief that it will be completed before that date.

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The work on the plans for the intercepting sewers is progressing with a rapidity and success that will guarantee their completion at the earliest possible date. In saying this, I do not wish to be understood as conveying the idea that there are no obstacles to be overcome. The plans for the conduit on Thirty-ninth street show that the undertaking is of a character not surpassed, as an engineering proposition, by any work of recent years in or about Chicago. The results to be accomplished, however, can be fully appreciated only by those having a knowledge of the existing conditions of the Chicago river. The Stock Yards canal, the West fork of the South branch and the South fork of the South branch of the Chicago river are a menace to the health of the people of the City of Chicago. By the construction of the conduit at Thirty-ninth street, if we secure no other result than the purification of the sections of the river named and the diversion of the flow of sewage from the lake, leaving the water pure and wholesome, the money will have been well spent. Much of this could have been accomplished without increasing the size of the conduit recommended by the Pure Water Commission; but there is another consideration that affects every citizen and taxpayer in the City of Chicago, and that is the successful completion of the Sanitary canal. It is a well known fact that the amount of water required by the statute could not be secured through the Chicago river without a most extraordinary expenditure of money. The Sanitary Trustees had under consideration the construction of a conduit along the same line selected by the Pure Water Commission. The same tax payers furnish the money for the City of Chicago and for the Drainage District, therefore if the City government and Sanitary Trustees had each proceeded without regard to the plans of the other, it would have resulted in an extravagant waste of money of the people and a disregard of all ordinary business rules. After a number of

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conferences between the Mayor of Chicago and the Commissioner of Public Works (representing the City of Chicago), and the Engineering Committee (representing the Sanitary Trustees), a plan was arrived at whereby the City of Chicago would construct conduits of sufficient capacity to assure the flow of water (in conjunction with the Chicago river) required by the statute.

Thus we seek to accomplish, through the work now being done and by the plans now being prepared, three most important results: Removing a most foul plague spot by the dilution of the Chicago river, the discontinuance of the pollution of the waters of Lake Michigan (the source of our water supply), and supplying about 25 per cent of the necessary dilution of the Sanitary canal.

TRACK ELEVATION.

Track elevation in Chicago is now an assured success, the railroads realize they must elevate their roadbeds and the work is bound to move steadily on until every dangerous grade crossing in the City is eliminated.

The advantages assured to the people are manifold: track elevation does away with the enormous evil of grade crossings; it insures safety to life; it solves the problem of rapid transit, as the speed need not be regulated by City ordinances; it does away with delays and interruption to street travel; it dispenses with guards and gates at street crossings; it makes null and void the ordinance regulating the length of trains, and the number of cars to a train, within the City; it does away with the ringing of bells and the midnight commotion of the industrious locomotive. While it was supposed that the elevation of tracks would be an injury to the industries along the right of way of the roads, it has proved to be a benefit, and every industry, so far, has been accommodated.

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The records show that there has been more actual work done in the matter of track elevation during the past year than in any former year. Ordinances that have been passed for the elevation of railroad tracks are hereby outlined as follows:

May 17, 1897, which is known as the St. Charles Air Line Ordinance, and covers elevation of tracks of the following lines: Illinois Central, Michigan Central, Chicago & North-Western, and Chicago, Burlington & Quincy Railroads, 1.16 miles.

The roadbed and tracks of the Lake Shore & Michigan Southern and the Chicago, Rock Island & Pacific Railways shall be elevated from a point near Twelfth Street viaduct, and extending southwardly to a point near Archer avenue; there to connect with the present elevated roadbed and tracks of said Lake Shore & Michigan Southern and Chicago, Rock Island & Pacific Railways; and in this plane of elevation, doing away with the grade crossing at Eighteenth street, where subway will be built, and also eliminating the railroad crossing of the Chicago & Western Indiana and the Santa Fe Railroads, where the roadbed and tracks of the two companies will be depressed under the proposed elevation of the Lake Shore & Michigan Southern and Chicago, Rock Island & Pacific Railways. This plane of elevation is very near one mile in length.

The roadbed and tracks of the Chicago & Western Indiana and the Atchison, Topeka & Santa Fe Railroads are to be depressed, commencing at a point near Eighteenth Street viaduct, and extending to a point northeast of, and near Fourteenth street; and in this depression to pass underneath the proposed elevated roadbed and tracks of the Lake Shore & Michigan Southern and the Chicago, Rock Island & Pacific Railways, just north of the crossing of the St. Charles Air Line Railroad, as above mentioned, with the last two named companies; and in this course, doing away with or eliminating the grade crossing of Clark street, at which point the traffic of

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the City on Clark street will pass over the depressed tracks of the Chicago & Western Indiana and the Atchison, Topeka & Santa Fe Railroads, and underneath the St. Charles Air Line Railway Company. The distance of depression of the last two named companies will be about three-quarters of a mile.

A provision was made in the ordinance for the elevation of the South Side Rapid Transit Company, to elevate their roadbed and tracks where it crosses the roadbed and tracks of the St. Charles Air Line just north of Sixteenth street, which has already been done, to enable all of the railway companies interested in the work at this point to commence the work this Spring; and we are given to understand that this work will be commenced as soon as the frost is out of the ground, and will be completed within three months. This will cost approximately $2,000,000.

The Lake Shore and Chicago, Rock Island & Pacific Railways have elevated jointly, for a distance of about one mile from Thirty-eighth street southwardly to Forty-seventh street, and constructed subways in the following streets: Thirty-ninth street, Root street, Forty-third street, Forty-fourth street, Forty-fifth street and Forty-fifth place; and in addition to the above they have constructed retaining walls, and the foundations of the abutments for the subways at Sixtieth and Sixty-first streets, and also have elevated their yard between Root and Forty-third streets, at an estimated cost of $500,000.

The Pittsburg, Fort Wayne & Chicago Railway, in Stewart avenue, acting under an ordinance passed July 27, 1896, providing for the elevation of their roadbed and tracks from Fifty-fifth street south to State street, constructed all the necessary retaining walls between Fifty-fifth street and Wentworth avenue, and the foundations for the abutments of all subways between these points, so that as soon as practicable in Spring the work of filling in between these retaining walls and the elevating of the roadbed and tracks will be done simultaneously

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with the Lake Shore & Michigan Southern and the Chicago, Rock Island & Pacific Railways at Sixty-third street, as it is the intention of all the above-named companies to complete their work next year. The cost of this work will be about $225,000.

The Chicago & North-Western Railway Company, acting under an ordinance which was passed March 30, 1896, providing for the elevation of their Milwaukee division, and extending from Wrightwood avenue to Bryn Mawr avenue, a distance of about four and one-half miles, completed the portion of this elevation which was left over from last season, beginning at Berteau avenue and extending north to Rosehill Cemetery, a distance of a little over two miles, and constructing subways in Montrose avenue, Sunnyside avenue, Wilson avenue, Leland avenue, Lawrence avenue, Winnimac avenue, Foster avenue and Balmoral avenue. This work was commenced April 1st, and was completed in about thirty days, and cost about $400,000. After finishing this work the force of men were moved to Rockwell street; and acting under an ordinance passed January 18, 1897, the Chicago & North-Western Railway and the Pittsburg, Cincinnati, Chicago & St. Louis Railway jointly elevated their roadbeds and tracks from a point north of Fulton street to a point south of Twelfth street under Ogden Avenue viaduct, a distance of about two miles, and constructing subways in the following streets: Fulton street, West Lake street, Park avenue, Washington boulevard, Warren avenue, West Madison street, West Monroe street, Wilcox avenue, West Adams street, Jackson boulevard, West Van Buren street, West Congress street, West Harrison street, Flournoy street, Lexington street, Polk street, Harvard street, West Taylor street, and in conjunction with the Chicago Terminal Transfer Railroad Company the two above-named companies constructed a subway in West Twelfth street. The above work was commenced on the first day of June and was completed by the first day of November. In addition to the above elevation the Lake

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Street Elevated Railroad elevated their roadbed and tracks above this elevation, so that there was a clear head room of 16.5 feet. Also the Metropolitan West Side Elevated Railroad Company elevated their roadbed and tracks so that there was a clear head room of 16.5 feet provided above the new elevated roadbed and tracks of the Chicago & North-Western Railway and the Pittsburg, Cincinnati, Chicago & St. Louis Railway, all at a probable cost of about $1,000,000.

On December 2nd an ordinance was passed providing for the elevation of the Chicago & North-Western Railway from Chicago Avenue viaduct in a northwesterly direction to Diversey avenue on the Milwaukee Division, where it connects with the present elevated roadbed and tracks of said railway, and also extending to Wood street on the Wisconsin Division, where it shall connect with the proposed elevation as provided in the ordinance passed March 30, 1896; a total distance of elevation of about three miles.

This ordinance also provides for the elevation of the Chicago, Milwaukee & St. Paul Railway, for a distance of about one half mile, where it crosses the Chicago & North-Western Railway, and subways are to be constructed on the Chicago, Milwaukee & St. Paul Railway in Elston avenue, North Ashland avenue and North Marshfield avenue; on the line of elevation of the Chicago & North-Western Railway, subways shall be constructed in North Sangamon street, North Carpenter street, North May street, Elston avenue, North Centre avenue, Augusta street, Wade street, West Division street, Sloan street, Bradley street, Ingraham street, Blackhawk street (the junction of Fox place, Blanche and Noble streets), West North avenue, Wabansia avenue, Clybourn place, Armitage avenue, Elston avenue, Webster avenue, East Fullerton avenue, Clybourn avenue and Wrightwood avenue; at a cost of about $1,200,000.

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On December 2, 1897, an ordinance was passed for the elevation of the Chicago, Milwaukee & St. Paul Railway and extending from a point east of Central Park boulevard to Irving Park boulevard, a distance of about six miles; also for the elevation of its Branch Line at Pacific Junction, a distance of about one mile; and for the elevation of the Chicago & North-Western Railway from a point south of Milwaukee avenue, north to Irving Park boulevard, a distance of about one-half mile. In the main line of elevation of the Chicago, Milwaukee & St. Paul Railway subways are to be constructed in West Chicago avenue, North Kedzie avenue, North Spaulding avenue (Grand and Homan avenues), West Division street, Central Park avenue (Tinkham and Hirsch streets), (North Lawndale avenue and LeMoyne street), West North avenue, Wabansia avenue, Cortland street, Armitage avenue, Dickens avenue, Humboldt avenue (North Fortieth avenue and Belden avenue), West Fullerton avenue, West Wrightwood avenue, West Diversey avenue, West Wellington street, West Belmont avenue, West Roscoe street, West Addison avenue, Milwaukee avenue and Irving Park boulevard; and on its Branch Line at Pacific Junction, subways are to be constructed in North Lawndale avenue, North Springfield avenue, and North Fortieth avenue; and on the Mayfair "Cut Off" Branch Line of the Chicago & North-Western Railway, subways shall be constructed in Milwaukee avenue and Irving Park boulevard, at a cost of about $1,200,000.

REPORT OF DEPARTMENT OF ELECTRICITY.

During the year 1897 the municipal electric light system has been increased by the addition of 183 arc lamps of 2,000 candle power each. This increase is greater than in any previous year since 1890. The additions were made to the existing plants and at a very reasonable cost, the average cost per light not exceeding $200.00, all the work being underground and of the same character as that previously in service.

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The City now has a total of 1,438 arc lamps operated from its own plants, and during the current year the system will be more than doubled, an appropriation of $150,000.00 having been made in the annual appropriation bill for the purpose of extending municipal lighting.

The exact location of these lamps has not yet been decided upon, but they will be distributed on the North, West and South sides of the City in a manner and at such points where they will be of the greatest benefit to the public. This increase in the system will necessitate establishing one new station on the South side, increasing the capacity of the three existing stations and equipping the Rice and Lincoln street station, which has not been in use for the past three years. All of the lights of the outlying districts will be connected with the stations by means of overhead work, but in the district known as the "underground district" the wires will be placed under ground.

The cost to the City for overhead work on the South side will be very materially decreased for the reason that the Chicago City Railway Company has offered the use of such pole lines as it may be desirable to use. If a similar arrangement could have been made with the North and West side street railroad companies no less than 2,600 arc lights could have been added to the present system; but these companies flatly refused to follow the example of the City Railway company.

The City rents a total of 531 arc lamps from private companies, which added to the electric lights operated by the City, makes a total of 1,916 lamps used exclusively for street lighting. They are located as follows:

OPERATED FROM CITY PLANTS.

SIDE.	In Use Dec. 31, 1896.	Added during 1897.	Discontinued during 1897.	In Use Dec. 31, 1897.
North	241	1	1	241
South	469	116	....	585
West	545	70	3	612
Total	1,255	187	4	1,438

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RENTED FROM PRIVATE COMPANIES.

SIDE.	In Use Dec. 31, 1896.	Added during 1896.	Discontinued during 1896.	In Use Dec. 31, 1897.
North	....	....	....	....
South	517	14	....	531
West	....	....	....	....
Total	517	14	....	531

TOTAL NUMBER OF LAMPS IN SERVICE DECEMBER 31, 1897.

North Side	241
South Side	1,116
West Side	612
Total	1,969

The maintenance of the electric lighting system during 1897 was on a basis of $90.65 per lamp per year. The first six months the lamps cost on an average of $46.73 each; for the second six months an average of $43.92 each. The cost per hour, per lamp, for the first six months was .0245; for the last six months, per lamp, per hour .0216.

The Electric light Department has been entirely reorganized; more efficient machinery installed in the stations, which for the last six months show a saving that warrants a guarantee that the electric lighting this year will not cost to exceed $83.00 per light per year.

The repairs for electric lighting maintenance by the City was discontinued on August 5th and repairs are now made by contract. This shows a net saving in cost of $570.71 per month. All the improvements made in the electric lighting system have been charged to the maintenance of the system, and to secure economical operation of the system it has not been necessary to expend any large sums of money.

During the last six months of 1897 the cost of coal was nearly double what it was the preceding six months on account of a strike of the coal miners. This additional price for coal materially increased the cost of last year's lighting, making a difference of nearly $4.00 per light per year. The conditions

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under which the new lights will be installed and guarantee obtained on the apparatus used in producing lights, warrant the statement that the new lights, as installed, will not exceed a cost of $75.00 per light per year.

The inventoried value of the electric light system January 1, 1898, was $797,431.11.

The apparatus is all in good condition and practically as good as new. It consists of 220.4 miles of underground circuits, with necessary conduit system; three power houses; twelve engines; twelve boilers; 1,552 lamps, hoods and appliances, and real estate on which the buildings are situated.

BUREAU OF ELECTRICAL INSPECTIONS.

The work of this branch of the Department consists of inspecting all electrical installations within the City limits, during the progress of the work, and issuing certificates to the effect that the work as completed complies with the ordinances of the City governing installations of electrical wires and apparatus, and is safe and secure in every respect.

The reports of inspections show that there is a very rapid increase in the use of electricity for light and power, and it has become necessary to enlarge the department in order to properly inspect the work as it is being installed. This does not increase the expense to the City, as all expenses of this department are paid from fees collected.

The total receipts for inspections during 1897 were	$16,248 52
Total expenditures for the department were	10,910 18
Balance unexpended	$ 5,338 34

The number of fires due to electrical causes, during 1897, was 91.

The total loss from fires thus caused was $9,515.00.

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There was but one serious fire so caused, the loss amounting to a total of $8,000. The balance of the loss, $1,515.00, was divided up among the other 90 fires.

There are in operation within the City limits, at the present time, a total of 771 central stations and isolated electric light plants, from which are operated a total of 27,193 arc lamps and 645,901 16-candle power incandescent lamps, and probably no less than 5,400 horse power in motors, exclusive of street railroads.

ELECTROLYSIS.

During the year a great number of tests have been made for electrolysis resulting from the use of grounded street railroad trolley circuits.

A test and examination was made showing that there is considerable damage already done to the water and gas pipes of the City, and that under the present conditions the damage is increasing continually.

Very careful reports of the tests and examinations made have been preserved and the entire matter has been referred to the Law Department with instructions to protect the City's interests.

Numerous samples of pipes which have been badly damaged by electrolysis have been preserved and will be used as evidence when the matter comes up for final adjustment.

DEPARTMENT OF HEALTH.

At the close of 1897 the Commissioner of Health was able to report a fewer number of deaths for the twelve months than for any year since 1889. This is the more remarkable when the growth of the area of the City and of its population is

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considered. Since April, 1889—that is, during the last ten years—the City has expanded from an area of less than thirty-six square miles to a fraction more than 187 square miles at the present time, with a corresponding increase of population.

The death rate based on the school census figures of population announced July 1, 1896, to-wit: 1,619,226, was 13.46 per thousand, the lowest ever recorded for any city in the world having a population of half a million or more. On this showing Chicago may fairly claim to be the best large city on earth in which to live and do business, since the chances of long and vigorous life are better and the loss of time from sickness and disability is less here than in any other city of first magnitude, either in this country or abroad.

Of the development of the work of the Department, that of the Laboratory is especially noteworthy. It is claimed that, in many respects, the character and volume of its labors are unparalleled even in the old-established and expensively-equipped public laboratories of the East and in Europe. It exercises a constant supervision over the sanitary quality of the water supply, and over milk, ice, meats and other articles of food—largely to the result of which eminent members of the medical profession attribute our low death rate, especially among infants and young children. Among other things the purity of all vaccine lymph used in public vaccination is rigidly maintained through the laboratory, and thus the chief objection to this great protection against smallpox has been removed.

This and similar work of the Department have so added to the sanitary reputation of the City abroad that the official organ of the largest and most influential body of medical and sanitary authorities among English-speaking peoples, has recently editorially commended to the Royal Commission for adoption in Great Britain what it styles "the Chicago system of sanitary machinery." The value and importance of this

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branch of the Department work have been recognized by the Council in providing increased facilities and accommodation for the Laboratory in part of the space vacated by the Public Library.

The Commissioner is especially pleased with the prospect of a still further improvement of the public health, which it is confidently anticipated will follow the diversion of sewage from the lake by the intercepting sewers and the reversal of the flow of the great sewers in Twelfth street and Twenty-second street to the South branch. What may be reasonably expected from this work is foreshadowed in the result last year of the unusually dry weather. The year was the driest on record since the establishment of the Weather Bureau station in this City in 1871, and, as a consequence, the sanitary quality of the water was not affected, as usual, by frequent rain flushings of sewage into the lake. The 42 per cent. reduction in the number of deaths from typhoid fever, as compared with the previous year —the least actual number in ten years—is attributed to this cause.

One of the most gratifying features noted in connection with the present administration of the Health Department, in addition to the growing confidence of the public in its ability to prevent anything like an epidemic of the contagious diseases, is the cordial co-operation of the medical profession in the efforts of the Department since the return of a medical man to its head as Commissioner. This co-operation is justly regarded as a most important factor in the success of sanitary administration, and it is now accorded to an extent that has never before obtained. During the last year all friction and opposition to the rules and regulations of the Department have disappeared and some 3,500 physicians have become more or less active co-workers in all measures projected for the protection of the public

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health and the betterment of the sanitary condition of the City. The community is to be congratulated on this notable accession to the working forces of its sanitary care-takers.

STREET CLEANING AND COLLECTION OF GARBAGE.

Early last summer a committee was appointed by the Council for the purpose of securing for Chicago a system for the collection and destruction of garbage that would be as near perfect as possible. After many months of arduous labor, including visits to the particular cities throughout the country, a plan known as the five years' contract system was adopted and was about to be put into effect when the courts were appealed to, resulting in an adverse decision on technical grounds and the squelching of the plan. Following this a system was adopted by which we are doing our own collection, the City being divided into districts and local inspectors being held responsible for results. This system, which is also applied to street cleaning, seems to give general satisfaction.

THE BUREAU OF STREETS.

The work of the Bureau of Streets, like other bureaus, has been hampered a great deal by lack of sufficient funds to properly conduct the work. The money in hand has, however, been spent to good advantage, especially in the repair of improved streets.

The placing of plank sidewalks in the City in good repair has been supplemented by the action of the board of local improvements in notifying property-owners that unless they put their walks in proper condition, as by law they are required to do, assessments would be levied upon said property for new concrete or stone walks. This has resulted in an increase of about 60 per cent. in the amount of sidewalks repaired by the

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owners of property. The City, where the condition of walks was dangerous, has expended large amounts annually in repairing sidewalks, which could have been repaired by the owners of the property.

In special assessment work the cost of engineering during 1897 has been reduced at least 25 per cent., at the same time getting better results in the construction of pavements. About fifty-five miles of pavement was laid during the year. With the line of action, as now mapped out, the close of the year 1898 will find a still better class of workmanship and materials.

LAYING NEW PAVEMENTS.

The action of the board of local improvements, in specifying the use of Portland cement in the construction of foundations for asphalt, granite and brick improvements cannot but be attended by more permanent improvements during 1898 and subsequent years.

SPECIAL ASSESSMENTS.

The Superintendent of the Bureau of Special Assessments reports that the working of his department under the new special assessment law is giving much satisfaction. One of the most pressing causes of complaint under the old law was that people upon whom the cost of particular improvements would fall were not consulted either about the necessity for it nor about the nature or cost of it, but under the new law all ordinances for local improvements must originate with the Board of Local Improvements, who shall determine when a special improvement is desirable. The present board meets every Tuesday and is very careful to give a hearing to property owners interested in proposed improvements.

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POLICE DEPARTMENT.

The report of the General Superintendent of Police, based on the records of his Department, contains assurance for all classes of citizens that the efficiency, vigilance and zeal that have characterized this Department will permit them to pursue their respective avocations without fear of being robbed and assaulted by long or short men. One need not be exceedingly observant to note that with the approach of winter comes an annual outbreak of crime. We all noticed evidences of such a visitation at the advent of the winter just ended, but it should not be allowed to pass without comment that criminality barely showed itself during last fall when it was crushed out with a suddenness and success that ought to be regarded with pride and satisfaction by every Chicagoan. There has been no evidence of crime through the recent winter as in former years; the criminals came in the fall, but they were severely taught that Chicago was an unhealthy clime for them, with the result that they were wise enough not to linger here long.

In this connection, it is interesting to observe that practically the entire Police Department is now under Civil Service. The report of the present Commission shows its certification to the Police Department to be 2,849, compared with 437 certifications of the Commission under the preceding administration. The former Commission slumbered at their posts and the ultra reformers turned their heads aside. The Commission under the present administration busied themselves in carrying out the law and these same ultra reformers rushed to the Grand Jury room and secured their indictment, resulting, however, in more honor for those indicted than for the ones who secured their indictment. The certifications made by the Swift Commission number in all 1,792, as against 8,198 made by the succeeding Commission, telling their own story.

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Corporation Counsel Thornton, in his annual report, referring to the Civil Service litigation, says:

Early in the year the case of the People of the State of Illinois on relation of Edward C. Akin, Attorney General, vs. Joseph Kipley, Superintendent of Police of Chicago, impleaded, etc., a mandamus proceeding instituted in the Supreme Court of Illinois, was contested for the purpose of testing the constitutionality of the Civil Service Law. As the result of the litigation in that Court, Section thirty-five of the law was declared unconstitutional. The remaining sections of the law were sustained by a majority of the Court, dissenting opinions being rendered by the Chief Justice and one other of the Justices of the Court. An appeal has been prayed to the Supreme Court of the United States, where the case is now pending, and wherein it is contended that the law was enacted by the Illinois Legislature in violation of the provisions of that part of the Fourteenth amendment of the Constitution of the United States providing that no State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States.

The present Civil Service Commission in the meantime are carrying out the mandate of the Supreme Court of the State.

JUSTICE SHOPS.

The justice shop system at present in vogue, with all its necessarily attendant scandals, is about to be wiped out. Arrangements are now being made by which the fee feature and other characteristics of temptation will be abolished. The victims of the system as it now stands are among those of our people who are least able to protect themselves, and I am confident the change from the old to the new plan will prove to be most beneficent in its results.

FIRE DEPARTMENT.

The Fire Department splendidly maintained during the year its magnificent record for efficiency and bravery. The Department responded to 6,808 alarms and extinguished 5,326 fires, an increase of 1,115 alarms and 912 fires over the previous year.

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BUILDING DEPARTMENT.

Beneficial results are expected from the building ordinance recently passed as the result of the study and labor of a special commission consisting of experts in building lines.

Among the principal changes in regard to the erection of buildings are the following:

First—Not granting permits where plans are not stamped by a licensed architect for buildings other than Class Three for more than two stories in height, nor greater area than 1,250 square feet.

Second—The licensing of builders. This, in addition to being quite a revenue to the City, will help us keep a check on all contractors.

Third—The reducing of the height of buildings from 155 feet to 130.

Fourth—The causing of all stairways constructed around or alongside elevator shafts in buildings of four or more stories in height, to be separated from the elevator shaft by fire proof walls.

Fifth—Changing the law on fire escapes, so as to include all buildings of four or more stories in height.

Sixth—The law on erecting hospitals has been so altered as to compel parties making application for such permit to first submit the written consent of the person or persons who may be the owners or agents of the entire frontage of the four sides of the block in which such building is to be located, and the entire frontage of the block on the opposite side of the street on which such building faces.

Under the old ordinance the written consent of the owners or owner of but 150 feet frontage on each side and adjoining and 300 feet of frontage on the opposite side of the street were necessary to obtain the permit; this was certainly an injustice to owners of property in the rear of such building.

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STREET RAILWAY INVESTIGATION.

The special Council committee to investigate the earning powers and general conditions, financial and otherwise of the street railway companies in their relation to the City, has completed its work and its report contains information that will prove to be of incalculable value in connection with future street railway legislation.

WATER AND SCHOOL COMMISSION.

Another special committee whose labors are certain to result in benefit to the City was the committee appointed for the equalization of water rates. One of the advantages arising will be that those who can best afford to pay more and who had not been paying their just share will be compelled to contribute what they honestly owe, while a corresponding burden will be removed from the poorer class of tax payers, whose rates are unduly high.

A commission that I am confident is destined to produce far reaching results for the tax payers of Chicago and for the educational interests of our people is the commission, composed of expert educators and experienced business men, appointed to devise a more suitable system for our public schools than that which at present prevails.

DEPARTMENT OF SUPPLIES.

By an ordinance passed in January of the present year the Council created a new executive department, known as the Department of Supplies. This department is charged with the purchasing of supplies, and letting of contracts for labor in cases wherein the expenditure involved is less than five hundred dollars. This plan brings the City's buying under a

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business system and centers the responsibility in one executive officer. A store-house has been established in connection with the Department, and such supplies as are in regular and constant use will be carried in stock and delivered as required.

The creation of this Department and its operation under restrictions which insure purchases at lowest competitive prices will doubtless effect a large saving and promote efficiency of service in various directions.

ILLINOIS CENTRAL LAKE FRONT FIGHT.

The noted contest between the City and the Illinois Central Railroad Company in regard to the jurisdiction of the City over the lake front has been brought to a climax during the past year. The City insisted on asserting what we conceived to be its rights; the matter was taken into the courts with the result that our prohibition of the encroachment on the lake front by the railroad company was sustained. The management of this case in the courts reflects particular credit on the Corporation Counsel.

The City was also successful in the important litigation wherein we claimed the right to build intercepting sewers out of the Water Fund. The importance of this latter decision is apparent in view of the fact that it would have been impossible for many years for the City of Chicago to make provision for a supply of pure water had the City been unsuccessful in its effort to defray the expense of the sewerage system out of the Water Fund. In the Valentine Scrip case, pending before the Secretary of the Interior, wherein the City filed its brief, a decision was rendered favorable to its contention, and within the past few days a victory of stupendous significance was won in Judge Ball's Court in the Weir & McKechney northwest land tunnel case. It gives the authorities full control of the entire work under contract and will result in saving upward of half a million dollars for the City.

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Reports have been made by the heads of the various City Departments, including the City Comptroller, City Collector, City Engineer and Corporation Counsel which show in detail splendid results from the working of their offices, and these will be printed for the benefit of those who desire more particulars than are given in this necessarily cursory statement.

Respectfully submitted,

CARTER H. HARRISON,
Mayor.

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Department of Public Works,

City of Chicago.

L. E. McGANN,
Commissioner.

A. J. TOOLEN,
Deputy Commissioner.

HENRY LUTZENKIRCHEN,
Secretary.

J. J. GRAHAM,
Assistant Secretary.

Heads of Bureaus.

City Engineer,	JOHN ERICSON
Superintendent of Sewers,	F. E. DAVIDSON
Superintendent of Special Assessments,	H. J. JONES
Superintendent of Water Bureau,	FELIX LANG
Superintendent of Street Bureau,	M. J. DOHERTY
Superintendent of Map Bureau,	WM. REISENEGGER
Superintendent of Street and Alley Cleaning,	JOHN FITZSIMMONS
Department Book-keeper,	L. E. GOSSELIN

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PAST COMMISSIONERS OF PUBLIC WORKS.

WATER BOARD.

1851-54—John B. Turner, Prest., Horatio G. Loomis, Alson S. Sherman.
1854-56—James H. Woodworth, Prest., John C. Haines, George W. Dole.
1856-58—George W. Dole, Prest., Orrington Lunt, John C. Haines.
1858-60—George W. Dole, Prest., Orrington Lunt, Noah Sturtevant.
1860-61—Orrington Lunt, Prest., Edward Hamilton, Benjamin Carpenter.

SEWERAGE BOARD.

1855-59—Wm. B. Ogden, Prest., James D. Webster, Sylvester Lind.
1859-61—James D. Webster, Prest., Sylvester Lind, Philip Conley.

Water and Sewerage Boards merged May 6, 1861, into

BOARD OF PUBLIC WORKS.

1861-63—Benjamin Carpenter, Prest., John G. Gindele, Frederick Letz.
1863-65—Francis C. Sherman, Mayor, *ex-officio* member of the Board.
1863-67—John G. Gindele, Prest., Frederick Letz, Orrin J. Rose.
1867-69—Aug. H. Burley, Prest., Wm. H. Carter, John McArthur.
1869-71—John McArthur, Prest., Wm. H. Carter, Redmond Prindiville.
1865-69—Wm. Gooding and Roswell B. Mason, members of the Board in matters pertaining to the cleansing of the river.
1869-71—Wm. Gooding and Edward B. Talcott, members of the Board in matters pertaining to the cleansing of the river.
1871-73—Wm. H. Carter, Prest., Jas. K. Thompson, Redmond Prindiville.
1873-76—Redmond Prindiville, Prest., Louis Wahl, Jas. K. Thompson.

Board of Public Works abolished September 18, 1876, and on the same date there was established by the City Council

THE DEPARTMENT OF PUBLIC WORKS.

1876-78—Monroe Heath, Mayor, Acting Commissioner.
January 7 to May 18, 1879—E. S. Chesbrough.
May 19, 1879, to October 18, 1881—Charles S. Waller.
October 19, 1881, to February 4, 1882—Carter H. Harrison, Mayor, Acting Commissioner.
February 4, 1882, to January 31, 1886 -DeWitt C. Cregier.
February 1, 1886, to June 28, 1886—Carter H. Harrison, Mayor, Acting Commissioner.
June 28, 1886, to April 11, 1887—W. H. Purdy.
April 12, 1887, to April 15, 1889—George B. Swift.
April 16, 1889, to April 27, 1891—W. H. Purdy.
April 28, 1891, to December 24, 1892—J. Frank Aldrich.
December 24, 1892, to April 25, 1893—E. Louis Kuhns, Acting Commissioner.
April 25, 1893, to November 21, 1894—Hiram J. Jones.
November 21, 1894, to November 28, 1894—John A. Moody, Acting Commissioner.
November 28, 1894, to April 8, 1895—John McCarthy.
April 8, 1895, to July 20, 1896—William D. Kent.
July 20, 1896, to April 15, 1897, Joseph Downey.

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REPORT OF THE

Commissioner of Public Works

CITY OF CHICAGO

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COMMISSIONER'S REPORT.

OFFICE OF THE COMMISSIONER OF PUBLIC WORKS,
CITY HALL.

To the Honorable, the Mayor and City Council
of the City of Chicago:

GENTLEMEN:—As required by ordinance, I transmit herewith the Twenty-second Annual Report of the operations of the Department of Public Works, for the year ending December 31, 1897.

It consists of detailed reports of the work peformed by the several bureaus constituting the Department of Public Works, with such recommendations as have been suggested by the observations and experience of the respective superintendents acquired in the performance of their duties.

The work of the Department is divided into the following bureaus or divisions by the ordinance creating it:

Bureau of Engineering,
Bureau of Streets,
Bureau of Sewers,
Bureau of Water,
Bureau of Special Assessments,
Bureau of Maps and Plats,
Bureau of Street and Alley Cleaning,
Commissioner's Office.

The reports submitted herewith were prepared by the head of each division, and are worthy of your careful perusal.

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The work heretofore authorized by your Honorable Body for the construction of tunnels, pumping stations and installing engines has been continued during the year with varied success.

Section One of the new Northwest Land Tunnel was completed on April 30, 1897, by the contractors, the Fitz-Simons & Connell Company.

Work was continued on Section Two of the Northwest Land Tunnel until October 18, 1897, when the contractor refused to proceed with the work any farther because claims made by him for certain payments alleged to be due under his contract were denied by the Department on the advice of the Corporation Counsel. The contractor, Joseph J. Duffy, instituted legal proceedings for the collection of $218,452; the case was heard in the Circuit Court of Cook County and judgment rendered against the City for $204,328.52; an appeal was taken by the City and the case is now pending.

Work on Section Three of the Northwest Land Tunnel was continued throughout the year by the contractors, Weir, McKechney & Company, and 9,960.8 feet of tunnel were fully completed and 1,289.9 feet of tunnel were excavated but not lined with masonry.

Work was continued on the Northeast Lake Tunnel by the contractors, the Fitz-Simons & Connell Company and was conducted with much success, although many difficulties were met and overcome.

Crib construction is being proceeded with in such manner as to assure its completion within the time provided for by the contract.

Work on the erection of the new pumping stations at Central Park avenue and Fillmore street and at Springfield avenue and Bloomingdale road was commenced by the contractor, John P. Agnew, and has progressed rapidly under the direction of the Engineering Bureau.

A new 14-million gallon engine was installed and put in service in the month of July at the Lake View pumping station and has so increased the water supply as to insure a better service to the citizens of that vicinity, and the benefits derived therefrom have been perceptible throughout the North Division of the City.

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At the Norwood Park pumping station an air compressor and a new boiler for an air lift system were installed at a cost of $2,640.93, insuring a capacity of 170,000 gallons of water per day. This has resulted in giving the residents of that vicinity a supply of water unsurpassed by anything they have ever had.

Authority was given and contracts let for the construction of a 30-million gallon engine at the Fourteenth street pumping station and a 14-million gallon engine at the Sixty-eighth street pumping station, and when these engines shall have been erected assurance is given that the large number of complaints made annually by citizens of a lack of sufficient amount of water will cease and even before the completion of the new Northwest land tunnel system, the installation of engines and pumping stations and the laying of distribution mains forming part of a general plan and system shall have been completed, the people of Chicago will be supplied with water sufficient for all necessary purposes.

The condition of the engines, pumps, boilers and buildings of the several pumping stations of the City was such as to require the expenditure of large sums of money for the actual preservation of property. Most of the outlay was caused by the great destruction of of valves and machinery, and the extent can be appreciated when it is stated that upon a restoration of the parts an increase in the volume of water pumped equal to 20 per cent. resulted, while the outlay for these repairs are as nothing compared with the benefits derived from the immediate results through the better operation of machinery and in the preservation of property.

Many of the stations had not been painted or pointed for years, and the masonry of buildings was loose and tumbling down. This has all been repaired and presents a more reputable appearance and has resulted in an extension of the life service of the buildings.

Reference to the report of the City Engineer relative to the maintenance of bridges and viaducts will call to the cheek of the average citizen of Chicago a blush of shame that we must tolerate a financial system that fails to provide revenue sufficient to properly and economically maintain these great structures. The extravagant and wasteful policy that is pursued is caused by lack of funds to maintain economically the bridges and viaducts and give to the public the use of structures respectable in appearance and reliable for service.

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During the year 96,918,782,023 gallons of water have been pumped into the City mains, an average of 265,530,909 gallons per twenty-four hours. Estimating the population at two millions, this consumption is at the rate of 132.76 gallons per capita per day.

The City is drawing its water from the lake through the following tunnels:

LAKE VIEW TUNNEL.

6 ft. diameter, length 10,000 feet, supplying Lake View pumping station.

CHICAGO AVENUE LAKE TUNNELS.

5 ft. diameter, length 10,560 feet.
7 ft. diameter, length 10,560 feet.
7 ft. diameter, length 10,560 feet.
} Supplying North pumping station.

CHICAGO AVENUE LAND TUNNEL.

7 ft. diameter, length 20,856 feet, being an extension of 7-foot lake tunnel from Chicago avenue pumping station to West pumping station.

FOUR-MILE LAKE TUNNEL.

8 ft. diameter, length 9,139 feet.
6 ft. diameter, length 25,200 feet.
} From Four-Mile crib to Park row shaft.

FOUR-MILE LAND TUNNEL.

8 ft. diameter, length 516 feet.
6 ft. diameter, length 2,320 feet.
} From Park row shaft, supplying Fourteenth street pumping station.

The specifications provided for an eight-foot tunnel from the four-mile crib to Park row shaft and thence to the Fourteenth street pumping station, but owing to the character of the soil it was found necessary to split the eight-foot tunnel into two six-foot tunnels, as shown on the diagram.

7 ft. diameter, length 7,053 feet.
6 ft. diameter, length 480 feet.
} From Park row shaft, supplying Central pumping station.

JEFFERSON STREET CONNECTION.

6 ft. diameter, length 625 feet, between Chicago avenue land tunnel and Four-Mile crib.

SIXTY-EIGHTH STREET TUNNELS.

7 ft. diameter, length 5,037 feet.
5 ft. diameter, length 8,030 feet.
} From Two-Mile crib, supplying Sixty-eighth street pumping station.
6 ft. diameter, length 5,026 feet, from submerged crib, supplying Sixty-eighth street pumping station.

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This system makes the present nominal engine capacity as follows:

Lake View pumping station,	43,000,000 gallons per 24 hours.
North Side pumping station,	99,000,000 gallons per 24 hours.
Central pumping station,	36,000,000 gallons per 24 hours.
Fourteenth street pumping station,	54,000,000 gallons per 24 hours.
West Side pumping station,	60,000,000 gallons per 24 hours.
Sixty-eighth street pumping station,	74,000,000 gallons per 24 hours.
Total, - - - -	366,000,000 gallons per 24 hours.

All these engines draw their water from the lake through tunnels. There are, besides, small pumping stations at Washington Heights and Norwood Park, which draw their water from artesian wells.

TUNNELS.

The nominal tunnel capacity is as follows:

Lake View tunnel,	72,000,000 gallons per 24 hours.
Two-Mile tunnels,	250,000,000 gallons per 24 hours.
Four-Mile tunnel,	140,000,000 gallons per 24 hours.
Sixty-eighth street tunnel,	122,000,000 gallons per 24 hours.
Total, - - -	584,000,000 gallons per 24 hours.

TUNNEL AND CRIB CONSTRUCTION.

NEW LAND TUNNELS.

The construction of this new system of tunnels, which will supply two new proposed pumping stations, was commenced in the latter part of 1895.

SECTION ONE.

Section One begins at the foot of Oak street on the lake shore and extends to the intersection of North Green street and Grand Avenue. The diameter of this tunnel is ten feet.

At the close of the year 1896, 2,608 feet of tunnel remained to be completed. During January, 1897, work was suspended for about two weeks, owing to a court injunction. Work was resumed January 19th, and the whole section was completed April 30th.

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SECTION TWO.

This section extends in a southwesterly direction from the Green street shaft of Section One to a point at the site of the proposed pumping station at Central Park avenue and Fillmore street. The tunnel is eight feet internal diameter. The total length of this section is 19,856 feet or 3.76 miles, of which 9,391 feet is in earth, 503 feet in part earth and part rock and 9,962 feet is in solid rock.

During the year there were excavated in this section 4,628.7 feet of tunnel, of which 3,970.4 feet were in solid rock but were not lined with masonry. Work on this section has been stopped by the contractor pending the settlement of litigation with the City.

SECTION THREE.

Section Three is the northwest branch of this system, commencing at the intersection of North Green street and Grand avenue and extending to the proposed pumping station at Springfield avenue and Bloomingdale road. The internal diameter of this tunnel is eight feet. In 1897, 11,250.1 feet of tunnel were excavated, in 1,289.8 feet of which the brick lining has not been put in.

NORTHEAST LAKE TUNNEL.

This tunnel is an extension of the new land tunnel and extends from the Oak street shaft, the terminus of Section One, in a northeasterly direction under the lake to the new intake crib, two and one-half miles from shore. At the close of the year, 8,914 feet had been completed, there remaining to complete at that time 5,110 feet.

On July 10th the intermediate crib and shaft were completed, and tunneling began in both directions. On August 12th the intake crib was sunk.

SIXTY-EIGHTH STREET TUNNEL EXTENSION.

This tunnel is an extension of seven-foot tunnel, and during the year there were constructed 5,033.4 feet of tunnel and 84 feet of five-foot tunnel for Yates avenue connection were built.

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DIVISION OF BRIDGE AND VIADUCT CONSTRUCTION.

IRVING PARK BOULEVARD BRIDGE.

Plans were made for a modern plate girder span over the north branch of the river, and considerable work in the way of strengthening the old abutments and extending the wing walls was done by the Street Department. In view of the possible early improvement of the river and the necessity for building a bascule bridge, the North Chicago Street Railway Company, in order to provide for street car traffic, was permitted to strengthen the old bridge by pile and trestle bents.

MONTROSE BOULEVARD BRIDGE.

This bridge was moved north to make its center line coincident with the center line of street, and reinforced by pile bents, all of which was done by the North Chicago Street Railroad Company at their own expense.

JACKSON STREET BRIDGE. (GIRDER SPAN.)

The former plate girder span at the east end of Jackson street bridge was entirely remodeled by, and at the expense of the South Park Board, who caused additional girders and an entirely new buckle plate and concrete floor to be put in, thereby carrying the asphalt directly up to the bridge.

CHITTENDEN BRIDGE.

A new bridge was built in place of condemned structure over the Calumet river at Chittenden road.

THE NEW CRIB.

Plans are being prepared for the superstructure of the new intake crib for the new lake tunnel, it being proposed to make this crib the most complete and architecturally appropriate of any crib heretofore built.

BRIDGE AND VIADUCT MAINTENANCE.

The expense incurred in the maintenance of all bridges and viaducts for the year 1897, including labor, material, supplies, etc., has been $133,617.60.

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HARBORS OF CHICAGO.

During the year dredging has been done in the Chicago river as follows:

By the City:

South branch and main Chicago river.....$3,318.60

By dock owners under permits from the Department of Public Works:

Chicago river, 6 permits.....fees $ 40.00, cutting 8,000 cubic yards.
Calumet river, 7 permits.....fees $164.00, cutting 32,800 cubic yards.

The United States continued the work of improving the Chicago and Calumet rivers, the following work being done—viz.:

Chicago river, north branch.....563,693 cubic yards, $54,678.22
South branch and main river.... .....539,359 cubic yards, 58,796.15
Calumet river.... .....320,405 cubic yards, 42,453.66

The Chicago river was dredged to 17 feet below datum from about 500 feet west of Iron street bridge to Webster avenue on the north branch, including the Ogden canal, and the Calumet river was dredged to 20 feet below datum from its mouth to 106th street, to a width of 200 feet, with a turning basin of three acres in area near Ninety-third street.

The sanitary district of Chicago dredged the west fork of the south branch from Robey street towards Ashland avenue, cutting to a depth of 22.5 feet below city datum, removing 103,370 cubic yards, at 19 cents—$20,970.30, under permits from the Department of Public Works.

Under permits from the Department of Public Works the following dock work was done:

Chicago river and lake front, 31 permits.....fees, $1,158.50
New docks built.....2,536 lineal feet
Old docks rebuilt.....1,912 lineal feet
Old docks repaired..... 952 lineal feet
Calumet river, 14 permits..... fees, $194.62
New docks built..... 200 lineal feet
Old docks rebuilt.....559½ lineal feet
Old docks repaired..... 35 lineal feet

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ASTOR, LENOX AND
TILDEN FOUNDATIONS.

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Old docks repaired..... .....

The total dock frontage in the Chicago and Calumet rivers is over fifty-one miles. The following miscellaneous work was included in the dock permits during 1897:

Repairing the following bridge protections, viz:

Cal. & B. I. R. R. bridge at Ninety-second street, Calumet river.
Baltimore & Ohio R. R. and L. S. & M. S. R. R., Calumet river.
Rebuilding protection of Penn. R. R. Co.'s drawbridge, Calumet river.
Fenders for protections, Ft. Wayne R. R. and L. S. & M. S. R. R., Calumet river.

ELEVATION OF LAKE MICHIGAN.

As was indicated by the climatic conditions of January, 1897, some slight increase in the elevation of the lake level over year 1896 was the result. This slight evidence of improvement may not increase during 1898 because of the decrease in precipitation in 1897 over the basin of the upper lakes, though the increase in mean barometric pressure and the decrease in mean temperature over the same area for 1897 are favorable to an improvement. Notwithstanding the low level of Lake Michigan, our trade for year 1897 increased 1,311,423 tons over that for year 1896, a most promising showing against these unfavorable conditions.

CITY OF CHICAGO—SUMMARY OF COMMERCE BY LAKE.

Entrances.	No.	Tons.	Totals.	Tons.
Chicago river	7,619	5,340,648	8,907	7,148,797
Calumet river	1,288	1,808,149		
Clearances.				
Chicago river	7,551	5,268,225	8,958	7,128,438
Calumet river	1,407	1,860,213		
City of Chicago totals			17,865	14,277,235
Average cargo, Chicago river			700 tons	
Average cargo, Calumet river			1,361 tons	
Average cargo, City of Chicago			799 tons	

EXTENSION OF THE WATER PIPE SYSTEM.

Water pipes were laid during the year as follows:

2,620 feet	4-inch
139,870 "	6 "
62,154 "	8 "
8,125 "	12 "
4,651 "	16 "
11,349 "	24 "
228,769 lineal feet.	

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The whole being equal to 43 1/8 7/8 miles. Small pipe taken up or abandoned, 5 3/8 1/8 miles. Net pipe added to the system during the year, 38 1/8 9/8 miles, making a total of 1,730 1/8 7/8 miles of water mains in use at the end of the year 1897 within the city limits.

Fire hydrants placed in position during the year	480
Net number of hydrants added to the system	435
Total number of fire hydrants now in use	17,833
Stop valves put in place during the year	495
Net number of valves added to the system	454
Total number of valves now in use	13,372
9,939 new house-service taps were added, making a total of	286,179
9,939 new house-service pipes were added, making a total of	286,179
The number of service taps inserted in water mains, including re-taps and taps inserted for enlarged service pipes to buildings previously supplied, is	10,873

WATER METERS AND HYDRAULIC ELEVATORS.

Number of new meters put in during the year 1896	349
Number of old meters removed	59
Net increase	290
Total number of meters now in use	5,396
Total number of meters repaired	1,458
Number of meters removed and replaced by new ones	130

The revenue derived from water measured by these meters and hydraulic elevators for the past year amounted to $937,654.61.

STREET AND ALLEY IMPROVEMENTS.

STREETS AND ALLEYS.

During the year, 51.66 miles of streets and 4.38 miles of alleys, a total of 56.04 miles, were paved.

Streets curbed and filled, 2.51 miles.

SIDEWALKS.

During the year 1897 there was constructed by the City a grand total of 236.22 miles of sidewalk, divided as follows:

Plank sidewalk	152.18 miles.
Concrete sidewalk	77.42 miles.
Stone walk	3.27 miles.
Concrete walk, constructed by the various Park Boards,	3.26 miles.
Total	236.13 miles.

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FINANCIAL STATEMENT.

Amount paid contractors for street improvements by special assessments	$1,284,709 05
For sidewalks built by the Bureau under special assessment	50,799 30
For repaving and repairing improved streets	170,041 71
For grading, ditching, building and repairing aprons, culverts, crossings, etc., on unimproved streets	121,122 09
For sidewalk general repairs and intersections	65,952 58
For City parks	9,293 39
For new and repaired street lamps and signs	49,018 07
Grand total	$1,750,936 19

WATER OFFICE.

COLLECTIONS.

The receipts in this office from all sources amounted to $3,003,692.61, these figures showing a net increase for 1897 over 1896 of $174,014.22.

SERVICE PIPES.

During the year, 5,840 service pipes were laid under contracts let by the Department, at an average cost of $12.30.

PLUMBERS' LICENSES.

No receipts for plumbers' licenses are recorded because of the fact that during 1897 such licenses were collected through the City Collector's office.

INSPECTION DEPARTMENT

By a special inspection of the entire City, this branch of the Bureau increased the assessment $84,142.76 per year.

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Following is a table showing, among other things, the appropriations for Public Works from 1888 to 1897, increase of population and area during the same period, and other matters of interest connected with the work of the Department:

YEAR.	Appropriation.	Expenses.	Square Miles of Territory.	Census.
1888	$1,942,495 65	$2,057,422 79	87	802,651
1889	2,317,291 20	2,220,365 30	87	860,000
1890	2,581,445 20	2,492,808 45	100	1,208,669
1891	2,429,644 05	2,929,481 47	180	1,350,000
1892	2,597,148 17	2,508,771 98	180	1,488,010
1893	2,703,175 36	2,845,571 38	186.2	1,500,000
1894	1,979,863 85	2,220,321 43	186.2	1,600,000
1895	2,026,568 53	2,024,542 06	186.2	1,725,000
1896	1,780,557 93	1,777,337 11	186.2	1,800,000
1897	1,748,614 09	1,748,942 40	187.14	1,850,000

YEAR.	Number of Miles of Paved Streets.	Number of Miles of Unimproved Streets.	Cost of Cleaning and Repairing Improved and Unimproved Streets.	Amount of Appropriation per Square Mile of Territory.	Amount of Appropriation per Capita.	Cost per Mile of Cleaning and Repairing Improv'd and Unimprov'd Sts.
1888	348	314	$345,204 69	$52,499 88	$2 42	$521 45
1889	348	314	477,866 65	62,629 49	2 68	721 85
1890	669	1,567	583,468 69	14,341 36	2 13	260 94
1891	774	1,559	803,171 02	13,498 02	1 79	344 26
1892	879	1,493	896,017 02	14,428 60	1 80	377 74
1893	1,007	1,459	999,558 58	14,494 23	1 80	405 88
1894	1,086	1,400	696,627 99	10,615 89	1 23	280 22
1895	1,123.54	1,406.63	681,234 06	10,883 82	1 17	269 24
1896	1,183.64	1,494.61	589,944 43	9,562 53	1 01	220 21
1897	1,224.69	1,464.12	570,619 63	9,343 88	1 05	212 21

Of the 1,224.69 miles of pavement 112.79 are alleys, but in the total mileage of 2,569.63 miles are treated as streets.

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STREET IMPROVEMENTS.

There were 58.55 miles of streets improved during the past year.

There were 401,024 square yards of street pavement repaired.

Total streets in the City	2,576.02 miles
Total alleys in the City	1,348.16 miles
Total streets paved in the City	1,111.90 miles
Total alleys paved in the City	112.79 miles
New sidewalks constructed	236.23 miles
Sidewalks repaired	30.39 miles
Total sidewalks in the City	5,099.33 miles
Streets and alleys cleaned by the City	4,466.48 miles
Streets cleaned (under contract)	13,225.90 miles
Number of aprons, culverts, crossings, etc., built and repaired	5,228
Sidewalk intersections constructed and repaired	1,635
Number of street lamps (gas)	33,042
Number of street lamps (gasoline)	10,224
Number of street lamps (electric)	1,417
Total number of street lamps in the City	44,683
Temporarily discontinued (gas lamps)	7,500
Number of buildings removed	641

CONTRACTS.

Contracts were entered into by the City during the past year for paving and improving streets and alleys, and for constructing various public works; also for furnishing various classes of material and supplies, aggregating an expenditure of $5,580,461.47, distributed as follows:

150 Contracts for street and alley improvements, at a cost of	$ 962,608 71
1 Contract for engine for new repair shop	1,500 00
1 Contract for engines, boilers, etc., for Northwest and Southwest pump stations	437,600 00
1 Contract for steam heating apparatus for new repair shops	2,357 00
1 Contract for plumbing new repair shops	844 00
1 Contract for inspecting pumping machinery for Northwest and Southwest pumping stations	12,217 00
1 Contract for fire engine house, South place	2,993 00

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1 Contract for foundation for engine at Lake View pumping station	$	3,527 44
1 Contract for Northwest (Central Park avenue) pumping station		140,937 00
1 Contract for Southwest (Springfield avenue) pumping station		136,583 00
1 Contract for office fixtures, City Collector's office		1,308 00
1 Contract for air compressor and boiler at Norwood Park pumping station		2,300 00
1 Contract for extension Sixty-eighth street tunnel		32,556 52
1 Contract for repairing North Western avenue bridge		6,262 00
1 Contract for steam heating plant Sixty-eighth street crib		2,198 00
1 Contract for extension Lunt avenue outfall sewer		435 00
1 Contract for pile outlet Seventy-third street sewer		425 00
1 Contract for plumbing John Worthy school addition		7,700 00
1 Contract for cut stone work John Worthy school addition		1,637 00
1 Contract for mason work John Worthy school addition		10,090 00
1 Contract iron and steel work John Worthy school addition		4,500 00
1 Contract for carpentry work John Worthy school addition		5,999 00
1 Contract for ventilating apparatus John Worthy school addition		1,100 00
1 Contract for steam heating apparatus John Worthy school addition		3,600 00
4 Contracts for furnishing cast-iron water pipe		648,079 07
1 Contract for special castings for water pipe		20,000 00
1 Contract for hydrant and stop-valve castings		4,100 00
1 Contract for cast-iron rings and covers, hydrant chambers		9,100 00
1 Contract for brass castings for hydrant and stop valves		2,800 22
1 Contract for cast-iron manhole and catch-basin covers		2,832 00
1 Contract for corporation ferrules		578 00
5 Contracts for coal, for City Hall, bridges and pumping stations		276,260 00

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5	Contracts for oak and pine lumber for viaducts, bridges and City yards	$ 13,302 00
1	Contract for engine Lake View pumping station	43,900 00
1	Contract for engine Fourteenth street pumping station	83,875 00
1	Contract for engine Sixty-eighth street pumping station	45,475 00
1	Contract for tug service	5,600 00
1	Contract for tunnel gates	2,200 00
1	Contract for landing platform Northeast lake crib	6,426 00
1	Contract for cell foundation John Worthy school addition	1,815 00
1	Contract for cells John Worthy school addition	12,642 00
1	Contract for masonry Cottage Grove avenue police station	4,887 00
1	Contract for iron and steel work Cottage Grove avenue police station	1,685 00
1	Contract for cut stone work Cottage grove avenue police station	4,079 00
1	Contract for carpentry Cottage Grove avenue police station	4,239 00
1	Contract lathing and plastering Cottage Grove avenue station	1,443 30
3	Contracts for removing and disposing garbage for five years	1,873,821 50
3	Contents for collecting and removing garbage (emergency)	53,091 60
2	Contracts for sweeping and cleaning streets	135,195 42
5	Contracts for teaming for Bureau of Sewers and Engineering	44,194 51
51	Contracts for collecting and removing garbage	105,168 20
1	Contract for furnishing lamp posts	665 10
236	Contracts for constructing sewers	194,632 31
96	Contracts for laying water mains under special assessment	60,196 37
162	Contracts for laying house drains	41,954 14
124	Contracts for laying water service pipes	71,873 83
1	Contract arc lamps and posts (special assessment)	9,848 00
1	Contract for filling Holstein Park	1,837 50
35	Contracts for removing surplus earth along Forty-eighth avenue system of sewers	11,387 73

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The following table shows the quantity of water furnished, the total revenue received, and the average amount per million gallons annually, from 1858 to 1897, inclusive:

YEAR	Million Gallons Furnished	Revenue	Revenue per Million Gallons
1858	1,092	$102,178 85	$93 57
1859	1,415	122,753 50	86 75
1860	1,717	131,162 73	76 39
1861	1,767	131,035 10	74 15
1862 (15 months)	2,705	188,448 25	69 66
1863 (9 months)	2,336	192,246 39	82 29
1864	2,523	224,902 57	89 14
1865	2,778	253,114 49	91 11
1866	3,169	302,017 59	95 30
1867	4,232	338,929 28	80 08
1868	5,375	420,686 94	78 26
1869	6,801	476,968 24	70 13
1870	7,945	539,180 19	67 86
1871	8,423	445,834 64	52 93
1872	10,051	544,465 90	54 17
1873	11,723	708,804 32	60 46
1874	13,903	705,926 64	50 77
1875 (9 months)	10,957	635,996 54	58 04
1876	15,346	771,940 38	50 30
1877	19,047	908,509 64	47 70
1878	19,564	944,190 97	48 26
1879	20,558	922,001 26	44 85
1880	21,003	865,618 35	41 21
1881	23,332	936,922 07	40 16
1882	24,151	1,049,576 90	43 46
1883	26,742	1,142,868 54	42 73
1884	29,286	1,204,338 74	41 12
1885	33,451	1,339,038 00	40 03
1886	35,693	1,374,837 32	38 52
1887	37,199	1,490,028 68	40 05
1888	38,122	1,557,116 78	40 84
1889	40,504	1,621,786 34	40 04
1890	55,614	2,202,724 58	39 61
1891	63,552	2,364,463 09	37 21
1892	71,035	2,738,434 10	38 55
1893	86,298	2,949,548 87	34 18
1894	87,074	3,158,492 94	36 27
1895	91,922	3,318,483 85	36 20
1896	93,040	3,176,855 71	34 14
1897	96,918	3,206,357 83	33 08

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SEWERAGE.

The Commission, known as the "Pure Water Commission," was authorized by the City Council September 28, 1896, and appointed by the Mayor on the same date, presented its reports March 1 and 15, 1897, to the Council, and the said report was adopted and the plans approved March 22, 1897. Subsequently it was learned that the Sanitary Trustees had under consideration the construction of conduits along Thirty-ninth street and Lawrence avenue, on the same lines provided for in the plans of the Pure Water Commission. Action was accordingly delayed in the preparation of plans for the intercepting sewers for the purpose of uniting with the Sanitary Trustees in the preparation of plans that would serve for outfall sewers and furnish an amount of water sufficient to dilute the sewage that will flow through the Drainage Canal. At the close of the year such plan was under consideration by the Sanitary Trustees with every indication that it would be approved by them.

Architects, builders and engineers throughout the City had frequently complained of the inability to secure reliable data from which proper grade could be secured for the erection of buildings. All the benches that had heretofore been erected were of a temporary character, having been established on buildings which settled and disarranged the whole system of grades throughout the City. A plan was devised and monuments of a permanent character were constructed, the location of which may be learned from the map published in the report of the Superintendent of Sewers. The erection of such monuments will be of great value in enabling engineers to secure accurate grades throughout the City.

The sewerage system has been extended in the various divisions of the City during the year, as follows:

Constructed in the West Division	13.000 miles
Constructed in the South Division	14.819 miles
Constructed in the North Division	11.261 miles
Total	39.080 miles
Number of catch-basins built	1,842
Number of manholes built	1,550

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The cost of constructing sewers and catch-basins during the year was:

West Division	$214,242 90
South Division	182,519 05
North Division	49,487 58
Total	$446,249 53

Total number of catch-basins	47,626
Total number of manholes	49,704
Total number of miles of sewer in the City	1,343.043

MAINTENANCE OF SEWERS.

The cost of cleaning and repairing sewers, the cost per mile, and number of miles, also the number of catch-basins and manhole chambers distributed in the three Divisions of the City, are as follows:

DIVISION.	MILES OF SEWER.	NUMBER OF CATCH-BASINS.	NUMBER OF MANHOLE CHAMBERS.
West	569.584	20,925	20,336
South	522.907	18,107	19,669
North	250.552	8,594	9,699
Totals	1,343.043	47,626	49,704

The cost of repairing sewers and catch-basins during the year was $46,764.29, being an average cost of $35.73 per mile.

The cost of cleaning was $91,414.89, making the average cost $70.09 per mile.

The total cost of both repairs and cleaning was $138,179.18, making an average of $105.81 per mile.

Of the 39.080 miles of sewers constructed during the year, 12.357 miles are of brick and 26.723 miles of vitrified pipe.

Of the 1,344.839 miles of sewers constructed, 514.279 miles are of brick and 830.560 of vitrified pipe.

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TOTAL COST OF SEWERS.

DIVISIONS.	MILES.	COST.	AVERAGE COST PER MILE.
West	569.584	$ 7,829,373 05	$13,745 77
South	522.907	7,298,295 72	13,957 15
North	250.552	2,967,802 79	11,845 05
Totals	1,343.043	$18,095,471 56	$13,473 49

STREETS.

The enforcement of Section 1756 of the Revised Code of Chicago, resulted in the installation and maintenance by various railroad companies of a large number of lights at the several streets intersecting their rights-of-way. The benefits derived from this can scarcely be comprehended by anyone who has not had occasion to cross such rights-of-way which were not provided with sufficient lights.

The small amount of paving reported by the Superintendent of Streets and the almost impassable condition of many of our most important streets, is proof positive that we have not yet emerged into the full glare of prosperity. Ordinances for the improvement of many of the most important streets of the City have been prepared only to be defeated by the protest of property owners who claimed that they were unable to pay the assessments which would be levied against their property and that to insist upon the proposed improvements at this time would amount to a virtual confiscation.

Under the new special assessment law (which went into effect on July 1st last), the Board, created by that law, proceeded to consider all the petitions and orders passed by the City Council prior to its creation and passed resolutions ordering the streets to be improved where necessary and notified the property owners of that fact. If the property owners were opposed to the proposed improvement they would file objection or personally appear before the Board, protesting against the improvement. The result was that fully eighty per cent of all the resolutions and ordinances passed, ordering improvements, were discontinued because of the protests of the property owners, who claimed that they were unable to pay for improvements necessary to maintain Chicago as a municipality up to the standard established

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by modern experience and engineering. It must continue to suffer in its reputation abroad and the conditions referred to will increase the cost of intramural transportation because of inability to move loads with ease. The increased cost of transportation for one year will amount to more than would pay for the renewal of payments in that section of the City known as the business section, and the manufacturers and business men of the community will continue to pay increased prices for transportation unless the roadways are renewed with pavements that will offer less resistance for the moving of loads from manufacturing establishments and warehouses to and from the railroad depots.

STREETS IMPROVED.

During the year 1897 streets were improved as follows:

Paved with cedar blocks	23.53 miles.
Paved with macadam	15.52 miles.
Paved with granite blocks	0.53 miles.
Paved with Medina stone	0.00 miles.
Paved with brick	6.08 miles.
Paved with asphalt	10.38 miles.
Curbed and filled	2.51 miles.
Total number of miles improved	58.55 miles.

DISTRIBUTION OF KINDS OF PAVEMENT.

The following table gives the mileage of each class of pavement in use in the three principal divisions of the City:

DIVISION.	Cedar Block, Miles.	Macadam Miles.	Medina Stone, Miles.	Granite, Miles.	Sheet Asphalt, Miles.	Block Asphalt, Miles.	Brick, Miles.	Found'n, Miles.	Total Miles.
North	160.93	65.05	0.49	0.81	6.32	.....	3.84	1.08	238.52
South	314.82	263.69	1.41	20.52	16.89	2.97	7.18	.....	527.48
West	289.68	28.43	0.39	4.36	32.05	.....	3.78	.....	458.69
Totals	765.43	357.17	2.29	25.69	55.26	2.97	14.80	1.08	1224.69

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Repaving and repairs have been made on improved streets in each division of the City as follows:

North Division..... 113,119 square yards.
South Division.....147,484 square yards.
West Division.....140,421 square yards.

*Total .....401,024 square yards.

*This does not include the repaving done by private corporations.

SIDEWALKS.

Number of miles of wood, stone and concrete sidewalks built during 1897:

DIVISION.	MATERIAL.			Total Miles.	Sidewalks Repaired, Miles.	Total Work, Miles.
	Wood, Miles.	Stone, Miles.	Concrete, Miles.			
North.....	17.42	0.27	25.53	43.22	7.41	50.63
South.....	64.59	1.26	24.88	90.73	8.78	99.51
West	70.17	1.74	27.01	98.92	14.20	113.12
Totals.....	152.18	3.27	77.42	232.87	30.39	263.26

Total number of miles of sidewalk under the control of the City and the South, West and Lincoln Park Commissioners, at the close of the year:

UNDER CONTROL OF	MATERIAL.			Total Miles.
	Wood. Miles.	Stone. Miles.	Concrete. Miles.	
City	4,052.32	236.80	687.15	4,976.27
South Park Commissioners.....	.....	20.00	30.76	50.76
West Park Commissioners.....	.....	11.05	53.65	64.70
Lincoln Park Commissioners.....	.....	2.17	5.43	7.60
Totals	4,052.32	270.02	776.99	5,099.33

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PARKS.

The cost of maintaining the various parks under the control of this Department during the past year was as follows:

Aldine Square	$ 485 91
Douglas Monument Square	600 85
Ellis Park	618 35
Bickerdike Square	231 05
Jefferson Park (Jefferson)	93 75
Irving Park	1,000 00
Green Bay Park	664 88
Oak Park	342 93
Washington Square	1,112 90
Holstein Park	944 50
Gross Park	431 43
Congress Park	352 40
Shedd's Park	48 50
Eldred Park	115 44
Lakewood Park	106 00
Norwood Park	98 50
DeKalb Square	228 75
Kedzie Park	6 05

HOUSE MOVING.

Six hundred and forty-seven (647) permits to move buildings were granted, of which five hundred and forty (540) were for frame buildings, one hundred and seven (107) were for brick.

The following table gives the number moved in the different sections of the City, the height, and the total frontage:

NORTH SIDE	SOUTH SIDE	WEST SIDE	TOTAL
207	265	175	647

ONE STORY.	TWO STORIES.	THREE STORIES..
351	277	19

The total frontage was 13,626 feet, or about 2.39 miles.

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ASSESSMENTS PREPARED.

Cedar block pavement	57
Asphalt pavement	11
Macadam pavement	15
Vitrified brick pavement	5
Granite pavement	2
Miscellaneous street and alley improvements	1
Openings and widenings	12
Water supply pipes	70
Water service pipes	75
Sewers	114
Private drains	101
Plank sidewalks	105
Cement sidewalks	70
Stone sidewalks	1
Gas lamp posts	89
Boulevard lamp posts	11
Electric lamp posts	2
Total	741

MAPS AND PLATS MADE.

Electric lamp post assessments Electric lamp post ordinances	4
Lamp post ordinances	433
Lamp post orders	152
Lamp post assessments	250
Street improvement assessments and street and alley opening assessments	371
Street and alley opening ordinances	89
Street Engineer's estimates (opening streets and alleys)	507
Surveys	75
Sidewalk assessments	1,403
Water pipe extension	141
Law Department	460
Miscellaneous purposes	500
Total number of maps and plats	4,385

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STREET LAMPS.

The following table shows the number of street lamps of each kind in use, and the number erected during the year:

DIVISION.	GAS LAMPS.				ELECTRIC LAMPS.			
	No. in City Jan. 1, 1897.	Erected during 1897.	Discontinued in 1897.	No. in City Dec. 31, 1897.	No. in City Jan. 1, 1897.	Erected during 1897.	Discontinued in 1897.	No. in City Dec. 31, 1897.
North	7,180	894	917	7,157	240	1	.....	241
South	11,032	943	1,243	10,732	986	130	.....	1,116
West	17,874	807	3,528	15,153	545	70	3	612
Totals	36,086	2,644	5,688	33,042	1,771	201	3	1,969

DIVISION.	GASOLINE LAMPS.				OIL LAMPS.			
	No. in City Jan. 1, 1897.	Erected during 1897.	Discontinued in 1897.	No. in City Dec. 31, 1897.	No. in City Jan. 1, 1897.	Erected during 1897.	Discontinued in 1897.	No. in City Dec. 31, 1897.
North	1,140	239	142	1,236	.....	.....	.....	.....
South	4,580	180	389	4,371	196	.....	196	.....
West	4,538	438	359	4,617	.....	.....	.....	.....
Totals	10,258	857	890	10,224	196	.....	196	.....

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GAS LAMPS.

IN SERVICE.

North Division	7,157		
South Division	10,732		
West Division	15,153		
	33,042	@ $25 =	$ 826,050

OUT OF SERVICE.

North Division	1,829		
South Division	1,460		
West Division	7,369		
	10,658	@ $25 =	$ 266,450
			$1,092,500

EXPENSE OF LIGHTING.

The following table shows the cost of lighting the City and maintaining lamps, during the year ending December 31, 1897, including the cost of extinguishing, under schedule adopted by the Council:

For lighting and maintenance of gas lamps	$367,934	02
For miscellaneous expense	25,224	49
For gasoline lamps (lighting by contract)	161,466	35
For maintenance electric lamps, City	118,205	18
For rental electric lights (contract)	33,879	32
	$706,710	26
Judgments in tax levy	184,361	83
Judgments not in tax levy	4,899	98
Total cost of lighting the City	$895,972	07

FINANCIAL.

Statement of the sum appropriated by the Common Council, together with various amounts from other sources, to be expended in public improvements under the supervision of the Department of Public Works, during the year 1897:

Balance January 1, 1897, to the credit of Water Fund, $ 325,382 96

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RECEIPTS.

From appropriation for 1897	$ 1,748,614 09
From rent of Rookery lot	35,000 04
From water revenue, including meter and private work and tapping permits	3,015,013 85
From advance to lay water mains	15,259 23
From hydrant wrenches	715 00
From sale of water certificates	none
From drain permits and drain licenses	23,062 39
From house-moving permits	1,264 00
From deposits for street permits (work done)	25,482 79
From special asssessment sewer inspection and work	37,055 35
From deposits for sundry improvements, special assessments and other funds	295,855 18
From special assessment collections	3,711,786 39
Total	$ 9,234,491 27

EXPENDITURES.

For bridges and viaduct repairs, street cleaning and removal of garbage, repairing improved and unimproved streets, public buildings and parks, Fullerton avenue and Canal pumping stations, improved street intersections, sewer catch-basins, labor, material and salaries	$ 2,123,908 84
Overdraft January 1, 1897	1,492 66
Transferred to General Fund	7,520 39

CONSTRUCTION.

For extension water pipe system	$ 458,074 96
For water pipe and special castings	75,897 07
For intersecting sewer	1,222 38
For Sixty-eighth street tunnel	105,464 40
For Northeast lake tunnel	197,123 96
For new land tunnel	560,941 36
For Western avenue tunnel	362 51
For Sixty-eighth street crib	5,271 24
For New repair shops	19,353 86
For Lake View pump	44,260 66
For C. H. Harrison crib	637 24
For Lake View crib	3,410 59
For Central Park pumping station	130,270 03
For Springfield avenue pumping station	4,776 03
For Norwood Park pumps	2,300 00

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For maintenance of water system, operating pumping stations, cost of assessing and collecting water taxes, stock on hand, etc.	$ 1,305,451 98
For water loan bonds, 6 per cent.	132,000 00
For Norwood Park bonds	4,500 00
For Town of Lake bonds	15,000 00
For water loan bonds, 4 per cent	2,700 00
For interest on bonds and certificates	171,954 67
For advance for laying water pipe refunded	44,889 41
For street improvements, street openings, sidewalks, sewers, private drains, water service pipes and lamp posts	3,711,786 39
Total	$ 9,170,570 63
Balance to credit Water Fund, January 1, 1898	63,920 64
Total	$ 9,234,491 27

WATER WORKS RECEIPTS AND EXPENDITURES, 1896.

Credit balance, January 1, 1897	$ 325,382 96

RECEIPTS.

Water rate collections (including delinquents)	$ 2,860 642 70
Water permits (permits and plumbers' licenses, etc.)	65,207 00
Water meter, labor, etc., for private parties	88,360 35
Rent for Rookery lot	35,000 04
Advance to lay water pipes	15,259 23
Hydrant wrenches	715 00
Old material sold, etc	803 80
	$ 3,391,371 08

EXPENDITURES.

For water pipe extension	$ 451,571 32
For water pipes and special castings	75,897 07
For Water Works repairs	372,473 73
For new land tunnel, 1895	560,941 36
For Northeast lake tunnel, 1895	197,123 96
For Western avenue tunnel	362 51
For Sixty-eighth street tunnel extension	105,464 40
For meter and private works	69,365 92
For water permits	49,691 86

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For North pumping station	$	162,400 34
For West pumping station		76,570 49
For South pumping station		66,397 97
For Central pumping station		52,431 03
For Sixty-eighth street pumping station		69,673 55
For Lake View pumping station		96,316 09
For Washington Heights pumping station		5,238 32
For Norwood Park pumping station		6,090 40
For Northwest pumping station		130,270 03
For Southwest pumping station		4,776 03
For Water Works shops		60,388 59
For Two-mile crib		12,938 24
For Four-mile crib		8,114 15
For Lake View crib		11,204 94
For Sixty-eighth street crib		12,201 82
For new crib (C. H. Harrison crib)		637 24
For Water Office salary		202,897 85
For Water Office expense		14,713 74
For water proportional, office salary		31,345 36
For water proportional, office expense		18,122 63
For advance for laying water mains, refunded		44,889 41
For hydrant wrench deposits, refunded		1,005 00
For miscellaneous items		555 85
For new repair shops (construction)		19,524 97
For refund vouchers		8,477 22
For Norwood Park bonds		4,500 00
For Town of Lake water loan bonds		15,000 00
For water loan interest		171,954 67
For water loan bonds		2,700 00
For water loan bonds, 6 per cent		132,000 00
For intercepting sewers		1,222 38
	$	3,327,450 44
Balance to credit of Water Fund, January 1, 1898		63,920 60
	$	3,391,371 08

Total cost of Water Works of the City to December 31, 1897, is as follows:

Cost, up to May 1, 1861, when the Works were transferred from the Board of Commissioners to Board of Public Works	$	1,020,160 21

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EXPENDITURES SINCE 1861.

Cost of water pipe including labor	$14,033,046 58
Cost of North pumping works	928,532 44
Cost of Springfield avenue pumping works	4,776 03
Cost of West pumping works	944,217 77
Cost of Central Park pumping works	130,270 03
Cost of Sixty-eighth street pumping works	284,366 60
Cost of Central pumping works	372,227 77
Cost of Norwood Park pumping works	2,300 00
Cost of Washington Heights pumping works	10,246 96
Cost of Lake View pumping works	189,504 48
Cost of South pumping works	569,272 84
Cost of new lake tunnel	1,104,744 12
Cost of C. H. Harrison crib	637 24
Cost of Lake View tunnel	701,792 45
Cost of new lake shore inlet	132,345 34
Cost of new lake shore inlet extension	146,459 04
Cost of new lake shore inlet extension	21,093 09
Cost of North breakwater crib	41,780 11
Cost of Two-mile crib	102,984 43
Cost of Four-mile crib	467,927 83
Cost of Lake View crib	91,462 21
Cost of Sixty-eighth street crib	47,420 47
Cost of Sixty-eighth street tunnel extension	720,457 35
Cost of Ashland avenue tunnel	17,453 36
Cost of first lake tunnel	464,866 05
Cost of second lake tunnel	415,709 36
Cost of lake crib protection	149,431 63
Cost of land tunnel to West pumping works	542,912 63
Cost of intersecting sewers	1,222 38
Cost of new land tunnel	284,380 04
Cost of Water Works shop	27,240 58
Cost of Water Works stock	29,318 00
Cost of Northeast lake tunnel, 1895	436,112 73
Cost of Water Reservoir fence	1,702 87
Cost of addition to stables	1,019 48
Cost of real estate for sites of pumping stations, etc.	242,285 75
Cost of works, annexed territory	1,160,164 24
Cost of Jefferson street tunnel	15,968 17
Cost of new land tunnel, 1895	1,065,892 47
Cost of Western avenue tunnel	29,614 58
Cost of new repair shops	42,749 11
Total cost of entire works to December 31, 1897	$26,997,068 82

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Paid as follows:

From general taxes	$ 2,713,878 53
From City of Chicago Water Loan bonds, 6 per cent	132,000 00
From City of Chicago Water Loan bonds, 4 per cent	1,485,000 00
From City of Chicago Water Loan bonds, 4 per cent	1,706,500 00
From City of Chicago Water Loan bonds, $3\frac{66}{100}$ per cent.	332,000 00
From City of Chicago Water Loan bonds, 3½ per cent.	333,500 00
From bonds canceled	2,099,500 00
From Hyde Park Water Loan bonds, 5 per cent	50,000 00
From Town of Lake Water Loan bonds, 5 per cent	75,000 00
From Lake View Water Loan bonds, 4 per cent	50,000 00
From Lake View Water Loan bonds, 5 per cent	23,000 00
From water certificates	1,500 00
From water earnings	18,127,190 39
Total	$26,997,068 82

Total Water Works income to December 31, 1897	$45,005,688 21
Total operating expenses and maintenance to December 31, 1897 (including $8,096,775.52 interest on bonded debt and bonds and certificates canceled)	27,095,885 14
Difference between income and expenses	$17,909,803 07

Accounted for as follows:

Paid toward Water Works construction	$18,127,190 29	
J. W. Lyons, cashier water office	2,000 00	
Meter Department, stock on hand	6,114 37	
Water Works Shop, stock on hand	7,662 00	
Tapping Department, stock on hand	3,687 10	
Water pipe, etc., stock on hand	99,156 09	
Balance to credit of Water Fund, Jan. 1, 1898	63,920 64	
		$18,309,730 49
Less amount due depositors for hydrant wrenches	$ 2,056 82	
Less amount advanced by private parties to lay water pipe in non-paying districts	397,870 60	
		399,927 42
		$17,909,803 07

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BONDED DEBT OF WATER WORKS:

City of Chicago Water Loan bonds outstanding Dec. 31, 1897, bearing 4 per cent. interest and maturing as follows:

July 1, 1908	$ 150,000 00	
July 1, 1910	159,500 00	
July 1, 1912	821,000 00	
July 1, 1914	576,000 00	
July 1, 1915	1,485,000 00	
		$ 3,191,500 00
Bearing 3½ per cent. interest, maturing—		
July 1, 1909	$ 225,000 00	
July 1, 1910	108,500 00	
		333,500 00
Bearing $3\frac{55}{100}$ per cent. interest, maturing—		
July 1, 1902	$ 332,000 00	332,000 00

ANNEXED DISTRICTS.

Town of Lake bonds:

5 per cent. bonds, due April 1, 1898	$ 15,000 00	
5 per cent. bonds, due April 1, 1899	15,000 00	
5 per cent. bonds, due April 1, 1900	15,000 00	
5 per cent. bonds, due April 1, 1901	15,000 00	
5 per cent. bonds, due April 1, 1902	15,000 00	
		75,000 00
Hyde Park Bonds:		
5 per cent. bonds, due January 1, 1904		50,000 00
Lake View Water bonds:		
5 per cent. bonds, due July 1, 1904	$ 23,000 00	
4 per cent. bonds, due July 1, 1907	50,000 00	
		73,000 00
Total bonded debt of Water Works		$ 4,055,000 00
Total interest paid on Water Loan to Jan. 1, 1898		$ 8,096,775 32

TRACK ELEVATION.

Among the important problems affecting the citizens of Chicago none is of greater interest than the question of track elevation. It must be gratifying to the people of Chicago to learn how rapidly the

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work of the abolition of the deadly grade crossings is abolished. The following information, taken from the report of the expert on track elevation, Mr. John O'Neill, shows the present situation in the matter of track elevation:

Miles of track elevation as per ordinances passed	45.7
Miles of track elevation completed to December 31, 1897	19.0
Miles of track elevation yet to be completed	26.7
Grade crossings to be eliminated as per ordinances passed	243
Grade crossings eliminated by completed elevation	86
Grade crossings yet to be eliminated as per ordinances passed	187
Approximate cost as per ordinances passed	$ 16,130,000
Approximate amount expended to December 31, 1897	6,050,000
Approximate estimate of amount yet to be expended	10,080,000

CONCLUSION.

In conclusion, I desire to thank His Honor and the members of the City Council for the valuable support given me in the conduct of the affairs of the Department and for the prompt and courteous consideration given to every recommendation submitted by me on all matters pertaining to the duties of my office.

To the heads of bureaus and divisions constituting the great Department of Public Works, I am indebted for the intelligent direction given to the work of their respective bureaus and divisions and for the industrious manner with which they have applied themselves in the performance of their duties.

While the amounts of money appropriated for the principal divisions of the Department of Public Works, namely, street cleaning, street repairs, sewer cleaning and repairs, and bridge and viaduct maintenance, are so ridiculously low as to compel a policy of extravagance, I believe the City during the past year received a larger percentage of service for the money expended than in any previous year. A higher order of discipline was maintained and a deeper personal interest was taken in the successful performance of the work, bringing such measure of relief as might be expected from the funds available for the public service. Such service, of course, is not satisfactory, and will not be satisfactory until the appropriations are adequate to the needs of a municipality of the great population, street mileage and area of the City of Chicago.

Respectfully submitted,

L. E. McGANN,
Commissioner of Public Works.

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REPORT OF THE

Bureau of Engineering

CITY OF CHICAGO

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CITY ENGINEER'S REPORT.

HON. LAWRENCE E. McGANN,

Commissioner of Public Works.

DEAR SIR—In presenting herewith the annual report of the Bureau of Engineering for the year ending December 31, 1897, the work of each subdivision of the Bureau is taken up separately and in order, as follows:

1. Water Supply System, including tunnels and cribs in operation: also, auxiliary pumping stations and Water Works shops.
2. Tunnel and Crib Construction.
3. Water Pipe Extension.
4. Bridge and Viaduct Construction.
5. Bridge and Viaduct Maintenance.
6. Harbors.
7. Architecture.

The various pumping stations have received considerable attention during the year. Both buildings and machinery were, almost without exception, found in a more or less dilapidated condition, owing to the fact that during the previous years only such repairs were made to the machinery as were absolutely necessary to keep it running, while the buildings had received no attention for years. The slight increase in cost for pumpage in 1897 over that in 1896 is quite insignificant when, in addition to the extensive repairs, it is borne in mind that there have been continuous changes, owing to the operation of the Civil Service Law, in that, as examination after examination has been held and eligible lists posted, the men already broken in and familiar with their duties one after another had to be dismissed and new men put in their places.

The total pumpage by all the pumping stations combined of potable water into the City mains during the year is 96,918,782,023 gallons, or an average of 265,530,910 gallons per twenty-four hours, the pumping of the Norwood Park station included.

At the North pumping station the conditions are becoming such that I must urgently recommend that, both as a matter of safety and as a matter of economy, steps be taken to replace the old and antiquated

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plant by modern and efficient machinery, both boilers and engines. Some of the old marine boilers are in such shape that they require constant repairing at enormous expense.

The old '53 and '57 beam engines, after having been in service for 45 and 41 years, respectively, certainly cannot be relied on any longer. Even the later beam engines, although at present in reasonably good shape, should be replaced by modern engines, as a matter of economy.

Contracts were let during the year for a new thirty million gallon triple expansion pumping engine, to be installed at the Fourteenth street pumping station and for a fourteen million gallon horizontal compound pumping engine to be installed at the Sixty-eighth street pumping station. These pumping engines, with the necessary new mains about to be laid, will prove a valuable and needed addition to the water works system.

In bridge construction very little has been done during the year, there being no appropriation for new bridges. The North Western avenue bridge over the north branch of the Chicago river and the Chittenden bridge over the Calumet river were rebuilt. This work was done by the division of bridge and viaduct repairs.

Owing to the weak condition of the center pier of the State street bridge I recommend that a new modern bridge be built at that place. The Archer Avenue bridge and the viaduct at Canal and Sixteenth streets should also be replaced by new structures without delay.

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DIVISION OF WATER SUPPLY SYSTEM.

PUMPING STATIONS.

MR. THOMAS DOWNS, Supervising Engineer, is in charge of all pumping stations.

NORTH PUMPING STATION,

MR. CHARLES SCHLACKS, Engineer in charge.

The beam engines, together with the boilers, at this station, on account of their long service, needed constant repairs of various kinds. On the 8th of October the '72 engine broke down. An examination developed that the suction chamber was badly cracked and that the foundation needed renewal. A new suction chamber and valve disc table were put in place. The bed plate, being cracked, was taken up and stiffened with cast steel ribs. The upper timbers of the foundation were removed and twelve inch eye beams bedded in concrete were substituted. In addition, the entire engine was overhauled. These repairs were completed Dec. 1st. A small machine shop, equipped with a lathe, drill press, shaper and small tools, was erected in the space between the north and south boiler rooms. Extensive repairs were made to both buildings and grounds. The ground back of the station, from which the repair shops had been removed, was cleared of all debris and levelled off. The water tower was renovated, all the stone work being repointed, and the stand-pipe was scraped and painted. On the main building all the external stone walls were repointed, the stone work of the principal entrance was renewed, the metal work of the roof was repaired and all broken slate replaced. The paving in the coal room was renewed. Continual repairs, entailing large expense, are necessary to keep the old engines and boilers in such shape as to obtain the service that is called for at this station.

WEST PUMPING STATION.

MR. THOMAS KAVANAUGH, Engineer in charge.

The four engines at this station have been in continuous service during the entire year, with the following exception: Engine No. 25 was shut down four days during February. With this exception none of the engines was stopped for more than two or three hours at

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a time. Only urgent repairs were made during the year, and as the engines and boilers have not been thoroughly overhauled since the year 1893, considerable repairing will have to be done shortly to put them in good condition for the coming year. Steam is furnished from this station to supply the City repair shops, as well as the City police repair shop. Some necessary repairs in the way of painting and renewing parts of the roofs have been done on the buildings.

FOURTEENTH STREET PUMPING STATION.

MR. HUGH MARTIN, Engineer in charge.

All the engines at this station were in continuous service during the year; no extraordinary repairs of any kind were necessary. During the year the governors on the the three engines, also the boiler feed pumps were repaired. The high and intermediate piston rods were equipped with Walsh's interlocking packing. All pipes, machinery, suction and discharge pipes in the basement, as well as the boilers, were painted. New rubber valves, brasses and bronze springs were put into main pumps. The covering of all pipes in boiler room was repaired and renewed where necessary. Miscellaneous repairs were made to the building itself. The alley in the rear of the station was paved with cedar blocks.

CENTRAL PUMPING STATION.

MR. MARTIN MAHONEY, Engineer in charge.

The two Allis engines at this station have been in constant operation during the year and are, in the main, in good condition. During the latter part of the year extensive repairs were commenced, including the overhauling of the boilers and resetting of same; needed repairs on the building including painting and carpenter work. All parts accessory to the engines were thoroughly overhauled and put in good condition.

SIXTY-EIGHTH STREET PUMPING STATION.

MR. DANIEL SULLIVAN, Engineer in charge.

The four Gaskell and the one Worthington engines are in good condition. During the year the old suction and discharge valves in the No. 3 Gaskell engine were replaced with new ones, thus increasing the capacity of the pump twenty-five per cent. On the Worthington engine a new set of rubber valves, both suction and discharge,

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was put in. On this engine was put also one new compensating cylinder and a full set of rod bushings and gibs. The plungers and rings were removed and the extra set that was on hand was put in place. Miscellaneous repairs were made on all the boilers, so that they are now in good condition, excepting the flues which will shortly have to be renewed.

LAKE VIEW PUMPING STATION.

MR. F. D. PARKER, Engineer in charge.

During the year a new fourteen million gallon horizontal compound engine was erected under contract with the Holly Manufacturing Co.

This engine was put into service in July, and is doing very efficient work. The West twelve-million-gallon Gaskell engine was thoroughly overhauled and some minor repairs were made to the other engines, so that the whole plant is in good condition.

WASHINGTON HEIGHTS PUMPING STATION.

MR. JAMES PEARCE, Engineer in charge.

The two duplex pumps in this station are in good condition, having been overhauled during the year. Another boiler feed pump was added and a new 6x36-inch deep well pump was installed. The furnace of the No. 1 boiler was rebuilt and the exhaust piping was remodeled. The roof of the building was repaired.

NORWOOD PARK PUMPING STATION.

MR. NELS SAMPSON, Engineer in charge.

The supply at this station is obtained from an artesian well. Early in the year, on account of the gradual lowering of the normal surface of the water in the well, the small duplex pump was unable to reach the water. A compressor and a new boiler were installed, by means of which the water is raised into a cistern surrounding the top of the well; from this cistern the duplex pump pumps the water to the stand pipe. Extensive alterations were made to the building. The whole plant is in good condition, having a daily capacity of 170,000 gallons.

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AUXILIARY PUMPING STATION.

CANAL PUMPING STATION.

MR. P. E. MCDONNELL, Engineer in charge.

Two of the engines at this station were thoroughly overhauled; most of the flues of the boilers were renewed. As a whole, the four engines at this station have given good service. The roofs of the buildings have been repaired and the grounds adjoining leveled off.

The amount of water pumped from the Chicago River into the Illinois and Michigan Canal at this station during the year was 26,227,860,000 cubic feet, or an average of 49,900 cubic feet per minute for the whole year against an average head of 5.4 feet.

The total cost of operation and maintenance was $63,832.13.

FULLERTON AVENUE PUMPING STATION.

MR. JAMES MCGOWAN, Engineer in charge.

Towards the end of the year extensive repairs were inaugurated, overhauling all engines, pumps and boilers. When this work is completed the plant will be in first-class condition.

The total amount of lake water pumped into the north branch during the year was 3,685,543,200 cubic feet, against an average head of 2.34 feet, and at a total cost for operation and maintenance of $12,503.00.

The appended diagram shows the daily pumpage at each station, separately and combined, with the quantities, heads and temperatures of the air and water.

The following tables give information in detail regarding pumpage, expenditure, etc.

Table "A" gives the monthly and annual pumpages at the respective stations, and table "B" gives the most important figures relating to quantities and expenses.

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TABLE "A."—MONTHLY PUMPAGE IN GALLONS, 1897.

MONTH.	North Pumping Works.	West Pumping Works.	14th Street Pumping Works.	68th Street Pumping Works.	Central Pumping Works.	Lake View Pumping Works.	Washington Heights Pumping Works.	The City as a whole.
January.....	2,057,205,310	1,938,797,000	1,263,336,466	1,105,102,477	718,199,419	717,238,461	10,021,300	7,809,900,433
February.....	1,865,293,278	1,658,648,000	1,107,558,112	1,002,086,183	872,469,192	618,336,264	7,727,160	7,132,118,189
March.....	2,059,189,432	1,878,324,260	1,191,458,888	1,078,281,490	952,071,134	694,124,771	7,916,000	7,861,365,985
April.....	1,939,055,280	1,754,014,740	938,182,224	961,893,641	923,553,645	709,086,794	5,130,720	7,229,916,994
May.....	2,066,287,688	1,850,956,300	1,181,417,421	1,057,999,628	936,381,047	797,879,300	7,739,700	7,898,661,079
June.....	2,021,848,061	1,837,345,700	1,212,653,853	1,096,682,194	932,952,258	801,084,108	7,102,780	7,909,668,954
July.....	2,178,542,270	1,901,686,300	1,311,128,314	1,323,848,575	963,406,079	890,665,905	10,213,260	8,579,490,703
August.....	2,157,450,136	1,866,058,500	1,280,811,757	1,291,995,890	961,649,866	1,102,421,255	8,833,120	8,669,220,524
September....	2,210,983,264	1,818,327,960	1,284,490,439	1,332,892,745	921,199,167	1,132,442,143	8,855,320	8,709,191,038
October.....	1,928,738,336	1,897,845,160	1,362,923,256	1,280,619,411	945,412,979	1,177,580,161	8,732,360	8,601,851,663
November....	1,618,676,925	1,812,659,680	1,261,962,470	1,122,286,540	943,135,697	1,142,279,542	7,741,504	7,908,742,358
December....	2,122,928,545	1,931,115,160	1,369,831,960	1,172,633,995	975,506,553	1,004,674,256	7,008,244	8,583,698,713
Totals.....	24,226,198,470	22,145,778,760	14,765,755,160	13,826,322,769	11,045,937,036	10,786,812,960	97,021,468	96,893,826,623
							Total pumpage Norwood Park Works.....	24,955,400
							Grand Total, City as a whole.....	96,918,782,023

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TABLE "A."—MONTHLY PUMPAGE IN GALLONS, 1897.

MONTH.	North Pumping Works.	West Pumping Works.	14th Street Pumping Works.	68th Street Pumping Works.	Central Pumping Works.	Lake View Pumping Works.	Washington Heights Pumping Works.	The City as a whole.
January.....	2,057,205,310	1,938,797,000	1,263,336,466	1,105,102,477	718,199,419	717,238,461	10,021,300	7,809,900,433
February.....	1,865,293,278	1,658,648,000	1,107,558,112	1,002,086,188	872,469,192	618,336,264	7,727,160	7,132,118,189
March.....	2,059,189,432	1,878,324,260	1,191,458,888	1,078,281,490	952,071,134	694,124,771	7,916,000	7,861,365,985
April.....	1,939,055,230	1,754,014,740	938,182,224	961,893,641	923,553,645	708,086,794	5,130,720	7,229,916,994
May.....	2,066,287,688	1,850,956,300	1,181,417,421	1,057,999,628	936,381,047	797,879,300	7,739,700	7,898,661,079
June.....	2,021,848,061	1,837,345,700	1,212,653,858	1,096,682,194	932,952,258	801,084,108	7,102,780	7,909,668,954
July.....	2,178,542,270	1,901,686,300	1,311,128,314	1,323,848,575	963,406,079	890,665,905	10,213,260	8,579,490,703
August.....	2,157,450,136	1,866,058,500	1,280,811,757	1,291,995,890	961,649,866	1,102,421,255	8,833,120	8,669,220,524
September....	2,210,983,264	1,818,327,960	1,284,490,439	1,332,892,745	921,199,167	1,132,442,143	8,855,320	8,709,191,038
October.....	1,928,738,336	1,897,845,160	1,362,923,256	1,280,619,411	945,412,979	1,177,580,161	8,732,360	8,601,851,663
November....	1,618,676,925	1,812,659,680	1,261,962,470	1,122,286,540	943,135,697	1,142,279,542	7,741,504	7,908,742,358
December....	2,122,928,545	1,931,115,160	1,369,831,960	1,172,633,995	975,506,553	1,004,674,256	7,008,244	8,583,698,713
Totals.....	24,226,198,470	22,145,778,760	14,765,755,160	13,826,322,769	11,045,937,036	10,786,812,960	97,021,468	96,893,826,623
							Total pumpage Norwood Park Works.....	24,955,400
							Grand Total, City as a whole.....	96,918,782,023

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TABLE "B."—OPERATIONS OF PUMPING STATIONS, CHICAGO, DURING 1897.

	North Side.	West Side.	Fourteenth Street.	Sixty-eighth Street.
Anthracite Coal, tons	13,848$\frac{371}{2000}$			
Bituminous Coal, tons	10,913	17,570$\frac{1335}{2000}$	9,595$\frac{1359}{2000}$	
Fuel Oil, gallons				2,169,758
Price of Anthracite Coal, per ton	$5.33			
Price of Bituminous Coal, per ton	2.23	$1.96	$2.29	
Price of Fuel Oil, per 100 gallons				$1.86
Cost of Anthracite Coal	71,150.89			
Cost of Bituminous Coal	24,280.88	34,366.52	21,967.78	
Cost of Fuel Oil				29,541.40
Total Cost of Fuel	95,431.77	34,366.52	21,967.78	29,541.40
Salaries	51,006.61	36,320.18	36,224.29	31,724.51
Cost of Oil, Stores and Lighting	4,543.98	1,645.19	1,712.32	2,239.46
Repairs to Buildings, Pumps, Engines and Boilers	17,337.36	4,027.16	5,881.65	7,231.46
Total Expense of Operation and Maintenance	168,319.72	76,359.00	65,785.99	70,736.83
All other Expenses combined	421.69	1,428.92	60.80	78.11
Grand Total of Expenses	168,741.41	77,787.92	65,846.79	70,814.94
Total Gallons Pumped during the year	24,226,198,470	22,145,778,760	14,765,755,160	13,826,323,769
*Per Cent of Pumpage of City as a whole	25.0	22.8	15.3	14.3
Greatest Amount Pumped in one day, gallons	80,761,925 Sept. 15	65,164,660 Jan. 23	48,134,995 Jan. 27	50,747,540 Sept. 9
Least Amount Pumped in one day, gallons	48,077,700 Nov. 25	47,947,900 Feb. 14	10,894,151 April 10	29,358,220 April 4
Average Pumped per day, gallons	66,873,146	60,673,366	40,454,179	37,880,396
Average Head against Pumps, in feet	104.5	100.4	114.3	127.4
Cost of Fuel Pumping 1,000,000 gallons, one foot high	3$\frac{77}{100}$c.	1$\frac{55}{100}$c.	1$\frac{30}{100}$c.	1$\frac{67}{100}$c.
Total Cost of Pumping 1,000,000 gallons, one foot high	6$\frac{85}{100}$c.	3$\frac{42}{100}$c.	3$\frac{20}{100}$c.	4$\frac{02}{100}$c.

*Norwood Park Station not included.

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TABLE "B."—OPERATIONS OF PUMPING STATIONS, CHICAGO, DURING 1897.—CONTINUED.

	Central.	Lake View.	Washington Hts.	*The City as a whole
Anthracite Coal, tons				13,848 871/1000
Bituminous Coal, tons	8,289 1288/1000	9,834 888/1000	628 181/1000	56,831 1018/1000
Fuel Oil, gallons				2,169,753
Price of Anthracite Coal, per ton				$5.33
Price of Bituminous Coal, per ton	$2.30	$2.14	$2.20	2.15
Price of Fuel Oil, per 100 gallons				1.36
Cost of Anthracite Coal				71,150.89
Cost of Bituminous Coal	19,061.67	21,004.68	1,381.66	122,063.09
Cost of Fuel Oil				29,541.40
Total Cost of Fuel	19,061.67	21,004.68	1,381.66	222,755.38
Salaries	24,630.60	24,119.74	3,150.00	207,175.88
Cost of Oil, Stores and Lighting	3,066.37	1,678.30	182.80	15,063.42
Repairs to Buildings, Pumps, Engines and Boilers	6,091.86	5,623.19	257.25	46,449.98
Total Expense of Operation and Maintenance	52,850.50	52,426.86	4,971.71	491,444.61
All other Expenses combined		44,102.66		46,092.18
Grand Total of Expenses	52,850.50	96,528.52	4,971.71	537,536.79
Total Gallons Pumped during the year	11,045,937,086	10,786,812,960	97,021,468	96,898,826,628
*Per Cent of Pumpage of City as a whole	11.4	11.1	0.1	100
Greatest Amount Pumped in one day, gallons	31,901,247 Oct. 11	42,188,022 Aug. 11	464,400 Dec. 4	3,078,432.41 Sept. 15
Least Amount Pumped in one day, gallons	15,760,850 Jan. 21	16,203,476 Feb. 9	86,040 Mar. 28	217,018,485 Jan. 17
Average Pumped per day, gallons	30,262,841	29,552,912	256,812	265,462,539
Average Head against Pumps, in feet	95.7	98.2	105.5	106.5
Cost of Fuel Pumping 1,000,000 gallons, one foot high	1 72/100 c.	1 88/100 c.	13 48/100 c.	2 16/100 c.
Total Cost of Pumping 1,000,000 gallons, one foot high	5 00/100 c.	4 55/100 c.	48 57/100 c.	4 76/100 c.

*Norwood Park Station not included.

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WATER SUPPLY SYSTEM.

WATER TUNNELS (IN OPERATION).

No change of any kind was made in the existing tunnels, they remaining the same as described in detail in the annual report for 1896.

LAKE CRIBS.

MR. PAUL G. BROWN, Assistant Engineer in charge.

The beginning of the year found the cribs in a very dilapidated condition, much work being necessary to put them in safe condition.

TWO-MILE CRIB.

JAMES DONEGAN, Crib Keeper.

The crib has been painted throughout. A new gravel roof has been placed on the house. The pumps, boilers and hoisting engine have been overhauled and put in good condition. A new concrete and wood foundation has been built for the hoisting engine. The crib has been equipped throughout with all the necessary tools and appliances for the handling of ice, so that the yearly struggle will cause no menace to the water supply. Additional beds have been supplied and extra rooms heated and lighted and each man given a separate bed, so that a better class of men have entered the City's service for the winter work at the cribs. The ice had cut away the corners of the protection breakwater below the water line, so as to weaken the protection. Piles were driven and rip rap placed in the protection, so that the breakwater is now in a safe condition. New planking was laid on the breakwater to replace that torn away by storms in the early part of the year.

LAKE VIEW CRIB.

GILBERT JOHNSON, Keeper.

The house for the crib keeper has been closed in, staging placed in well for use in hoisting ice, and bunks built and furnished for the accommodation of six men. A telephone cable has been laid to the crib and connected with the fire alarm telegraph service. The rip rap washed into the ports and well of the crib was removed.

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FOUR-MILE CRIB.

CHARLES T. MILLER, Keeper.

The crib has been thoroughly repainted. A new twelve hundred pound fog bell has replaced the one cracked the previous year.

SIXTY-EIGHTH STREET CRIB.

JOHN KELLY, Keeper.

This crib has been completed during the year, and is now the best appointed crib on the lakes. A breakwater with deep water ports surrounds the entire crib; the well is entirely enclosed and a steam heating plant has been added. The temperature of the well room is maintained at 70 degrees Fahrenheit, so that no ice forms, and during the winter season the crib is maintained by the addition of but one man to the regular force, an engineer, thus saving the pay of eight laborers and one engineer. The screens can be left over the gates in winter as well as summer, thus ensuring a pure water supply.

WATER WORKS SHOPS.

MR. JAMES GARVEY, Superintendent.

The new buildings at Twenty-second street and Ashland avenue, which were in course of construction at the close of the year 1896, were completed in February, 1897, and all machinery and material was moved from the old shops at the Chicago avenue pumping station in March. The following additions were made to the plant:

One 50 horse power engine.
One 125 volt dynamo.
Seven blacksmith forges.
One emery wheel.

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The whole plant is in very good condition. The following new pipe line fixtures and work for the various departments were made during the year:

HYDRANTS—NEW.

	2½-inch Single	2½-inch Double	4-inch Double
On hand January 1, 1897	49	318	12
Manufactured during 1897	217	225	10
Total	266	543	22
Delivered to Water Pipe Extension	262	416	16
On hand January 1, 1898	4	127	6

STOP VALVES—NEW.

	4-inch	6-inch	8-inch	12-inch	16-inch	24-inch
On hand January 1, 1897	61	10	16	25	6	3
Manufactured during 1897	1	397	162	7	4	7
Total	62	407	178	32	10	10
Delivered to Water Pipe Extension	53	388	142	29	8	7
On hand January 1, 1898	9	19	36	3	2	3

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The expenditures for labor and material during the year are as follows:

217 2½-inch single nozzle hydrants, costing		$ 2,743.45	
225 2½-inch double " " "		5,526.75	
10 4-inch " " " "		285.60	
			$ 8,555.80
Hydrant repairs			2,708.54
1 4-inch stop-cock, costing	$ 10 50		
397 6 " " "	5,208 61		
162 8 " " "	3,152 00		
7 12 " " "	231 50		
4 16 " " "	196 00		
7 24 " " "	1,090 50		
			9,889 11
Repairing and testing meters			2,055 52
Expenditures on account of water supply systems and other departments			27,866 97
Total			$ 51,075 94

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DIVISION OF TUNNEL AND CRIB CONSTRUCTION.

MR. J. H. SPENGLER, Assistant Engineer, is in charge of this branch of the Bureau work.

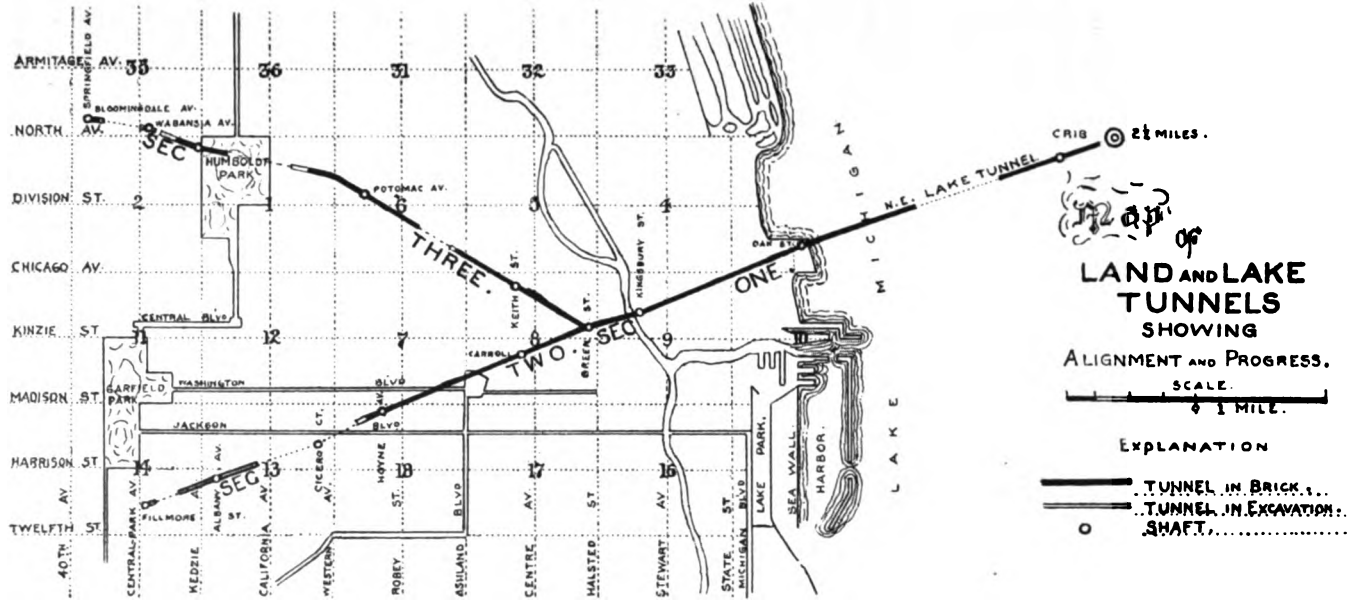
NEW LAND TUNNEL.

SECTION ONE.

At the close of the year 1896, 2,608 feet of tunnel remained to be completed. During January, 1897, work was suspended for about two weeks, owing to a court injunction. Work was resumed January 19th, and the whole section was completed April 30th. Of this 2,808 feet, 1,504½ feet was constructed by way of the Kingsbury street shaft and 1,103½ feet from the Oak street shaft. A brief resume of the work on this section is as follows:

This section, having an internal diameter of 10 feet, extends from a shaft located near the intersection of Green street and Grand avenue in a northeasterly direction to a shaft near the Lake Shore at the foot of Oak street, a total distance of 8,666 feet. An intermediate shaft was sunk at the intersection of Kingsbury and Ontario streets, and that part of the section between this shaft and the one at Green street, a total distance of. 2,216 feet, was completed during 1896. During that year a total distance of 2,679 feet was completed eastward from the Kingsley street shaft and 1,163 feet westward from the Oak street shaft. This whole section passed through a very hard gravelly clay, and, with the exception of one pocket of quicksand struck at a point about 513 feet from the Oak street shaft, no difficulties were met with. Occasionally small sand and gas pockets were encountered but not in sufficient quantity to retard the progress of the work. On account of the compact and tough character of the clay, dynamite was used continually while the work was in progress. The average progress made per day of 24 hours was approximately 17 feet. No lives were lost and only a very few minor accidents occurred. The whole work was completed in a very satisfactory and workmanlike manner. Oak street shaft, being still in use in connection with the work on the Northeast Lake Tunnel, remains to be domed over. J. H. Spengler, Assistant Engineer, with Edwin S. Woods as sub-assistant, was in charge of this section from the commencement to its completion.

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Map of LAND AND LAKE TUNNELS SHOWING ALIGNMENT AND PROGRESS.

SCALE.
0 1 MILE.

EXPLANATION

TUNNEL IN BRICK.
TUNNEL IN EXCAVATION.
SHAFT.

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SECTION TWO.

This section extends in a southwesterly direction from the Green street shaft of section one to a point at the site of the proposed pumping station at Central Park avenue and Fillmore street. The tunnel is 8 feet internal diameter. The total length of this section is 19,856 feet or 3.76 miles, of which 9,391 feet is in earth, 503 feet in part earth and part rock and 9,962 feet is in solid rock. During the year two more shafts were sunk, making five in all. One shaft was sunk on Cicero court, between Van Buren and Jackson streets, and the other was put in on the pumping station site and this will serve as the suction well. The difference between the various shafts is as follows:

From Green street to Carroll avenue, 2,759 feet.
From Carroll avenue to Hoyne avenue, 6,438 feet.
From Hoyne avenue to Cicero court, 3,122 feet.
From Cicero court to Albany avenue, 4,138 feet.
From Albany avenue to Central Park avenue, 3,399 feet.

At the beginning of the year 1897, work was in progress in drifts three, four, five and six. The work on this section was continued uninterruptedly by the contractors until July 4, 1897, when work was suspended. At this time work was in progress in drifts five and six. On July 10th operations were resumed on the sinking of the Central Park avenue shaft, excavating drift seven at this shaft for a distance of 395 feet, and also sinking Cicero court shaft. On October 18, 1897, work was again suspended, pending litigation between the contractor and the City, and at the close of the year operations on this section were still at a standstill. The following is in detail the work on this section during the year:

Drift No. 3.—This drift, which runs eastward from Hoyne avenue shaft, has a total length of 3,812.3 feet and is all in earth, excepting 88 lineal feet, where it is in part earth and part rock. On January 1, 1897, it required 658.3 lineal feet of progress to make connection with drift two westward from Carroll avenue shaft, work on which was discontinued during 1896. This connection was made and completed February 4, 1897. The character of the earth passed through on this length was hard clay, with occasional seams of loam; this loam was oftentimes in the form of pockets in the roof occasioning frequently considerable caving.

Drift No. 4.—Of this drift running westward from Hoyne avenue shaft 223 feet was excavated in 1897 all in solid rock. When the connection between drifts three and two was made, work at the

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Hoyne avenue shaft and consequently on this drift was suspended, connection with this drift to be made by way of the drift eastward from Cicero Court shaft. At the time of the suspension of work on this drift, a total distance of 1,420 feet from the shaft had been reached. The lengths and character of the material that had been passed through was as follows: Earth, 281.9 feet; part earth and part rock, 415.1 feet, and solid rock, 723 feet. All of this drift in earth, the length in part earth and part rock, including 4 feet in solid rock, was lined with the specified brick masonry. The balance of the drift excavated through solid rock remains to be lined.

Drift No. 5.—This drift extends eastward from the Albany avenue shaft and is entirely in solid limestone rock. During the year and up to the time (July 4th) when the contractors suspended work, 1,583.0 lineal feet had been excavated, or a total to date of 1,757.0 feet. No masonry work has yet been done in this drift.

Drift No. 6.—This drift running westward from Albany avenue shaft is also in solid rock. During the year 1,769.4 lineal feet of tunnel was excavated, or a total to date of 1,832.4 lineal feet. No part of this drift has been lined with masonry.

Central Park Avenue Shaft.—This shaft is the terminus of this section and is on the site of the proposed new pumping station. Preparations for the construction of this shaft were commenced July 10, 1897, actual construction started July 26th, and finally completed August 16th. The total depth of this shaft is 105 feet, of which 59 feet was in earth and the balance of 46 feet was in solid rock. The general elevation of the surface at this point is 16.5 feet above Chicago datum and the elevation of the rock is at —42.5 C. D. The earth portion of this shaft was lined temporarily with brickwork, the permanent lining of the whole shaft still remaining to be done.

Drift No. 7.—This drift, running eastward from the Central Park avenue shaft, was begun August 13, 1897, and 395 lineal feet was excavated, work being suspended September 20th. This drift being in solid rock, the brick lining still remains to be done.

CICERO COURT SHAFT.

Preparations for the construction of this shaft were begun September 21st, actual construction commenced October 5th, and work discontinued October 18th, after excavating a total depth of 95.5 lin. ft., lacking 2.1 lin. ft. of the required depth. The material passed through was 53.8 ft. of earth and 41.7 ft. of solid rock. The surface

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of the ground at this point is at +10.8 C. D. and the elevation of the rock is at —43.0 C. D. The earth portion of this shaft was lined with brick masonry.

The following shows in detail the work done yearly since construction was commenced:

Year	Shafts	Tunnel (Lineal Feet.)							
	Lin. Ft.	Drift No. 1.	Drift No. 2.	Drift No. 3.	Drift No. 4.	Drift No. 5.	Drift No. 6.	Drift No. 7.	Total.
1895	101.0	209.0	23.0	.....	....	.....	.....	.....	232.0
1896	202.0	2550.0	2603.0	3154.0	701.0 496.0*	174.0*	63.0*	.....	9741.0
1897	218.0	... ..	.....	658.3	223.0*	1583.0*	1769.4*	395.0*	4628.7
Total	520.0	2759.0	2626.0	3812.3	1420.0	1757.0*	1832.4*	395.0*	14601.7

Those distances marked (*) indicate tunnel excavated in solid rock but not lined with masonry. The balance is completed tunnel in earth, and in part earth and part rock, including four feet of completed tunnel in solid rock. Mr. C. T. Anderson was assistant engineer in charge of this section until April, when, having resigned, Mr. F. G. Ewald was assigned to take his place.

SECTION THREE.

This section extends in a northwesterly direction from the Green street shaft to a point on the site of the proposed pumping station at Springfield avenue and Bloomingdale road. The internal diameter of this tunnel is eight feet. During the year three new shafts were located and sunk, making five shafts in all, from which work on the tunnel was prosecuted. The first shaft, which is to serve as the suction well at the pumping station, and which is therefore the terminus of the section, was sunk at Springfield avenue and Bloomingdale road. The second was sunk on Kedzie avenue, just south of North avenue. The third was located on Wabansia avenue, near Monticello street. This shaft was bricked up as it was excavated.

When the excavation reached a depth of 38 feet below the surface a vein of quicksand was struck, and before it could be controlled the influx was so great that the brick work was badly cracked,

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and it was decided more economical to abandon it and sink another shaft. This was done at a point on Wabansia avenue just east of Central Park avenue. With the exception just noted, no difficulty was experienced in sinking the shafts, each of them being timbered to rock. The total length of this section is 22,177 feet, equivalent to 4.2 miles. The distances between the various shafts as finally located are as follows:

From Green street to Keith street, 3,328 feet.
From Keith street to Potomac avenue, 7,213 feet.
From Potomac avenue to Kedzie avenue, 6,849 feet.
From Kedzie avenue to Wabansia avenue, 2,656 feet.
From Wabansia avenue to Springfield avenue, 2,131 feet.

On account of litigation between the contractors and the City, mining and brick work was carried on at Keith street and Potomac avenue shafts in an intermittent manner for the first three months of the year. All controversies having been decided by the Supreme Court by the latter part of March, the work on all parts of this section was actively pushed. The following shows in detail the work done on this section during the year:

KEITH STREET SHAFT.

Drift No. 1.—At the close of the year 1896, 1,181 feet had been excavated, of which 1,133 feet was in solid rock, and of which 667 feet had been lined with brick. That part of the drift between stations 11+33 and 17+33 was in part earth and part rock. From the latter point, continuing until the Green street shaft was reached, the tunnel was in earth. The character of the soil was as a rule hard clay interspersed with gravel, together with numerous loam and sand seams. No difficulties of any kind were met with. Connection with the Green street shaft was made September 28th. The progress during the year was 552 feet in part earth and part rock, and 1,595 feet in earth, all lined with brick work.

Drift No. 2.—At the close of the year 1896, 1,134½ feet, all in solid rock had been excavated, of which an average of 407 feet had been bricked up. Work was continued in solid rock until at station 20 an earth roof developed, putting the drift in part earth and part rock for the balance of the year. The drift was lined with brick from the shaft up to station 12+87 for the arch and in the invert up to station 13+28.7. The brick [illegible] again resumed at station 20

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and continued up to station 30+20 in the arch, and 30+40 in the invert. During the year a total of 1918½ lineal feet was excavated; 1826.7 feet of invert, and 1991 feet of arch being bricked up.

POTOMAC AVENUE SHAFT.

Drift No. 3.—At the close of the year 1896, 698 lineal feet had been excavated, all in solid rock, of which an average of 304 lineal feet had been bricked up. Work in this drift was continued in solid rock up to station 21+68, where an earth roof developed, which condition continued until the close of the year. The face at the close of the year is at station 22+44 and the entire drift was lined with brick masonry up to within eight feet of the face. During the year the progress was as follows: 1,546 lineal feet were excavated, 1,715 feet of invert and 2,115 feet of arch were bricked up.

Drift No. 4.—At the close of the year 1896 735½ lineal feet had been excavated, all in solid rock, of which an average of 241 feet was bricked up. The whole of this drift up to the close of the year passed through solid rock. The progress during the year was as follows: 1,812.4 lineal feet excavated, 1,642 lineal feet of invert and 1,754 lineal feet of arch bricked up.

KEDZIE AVENUE SHAFT.

The sinking of this shaft was commenced April 19 and completed by the end of May. This shaft is timbered down to rock, which is at an elevation of —42.0 C. D. This shaft is very wet, the water coming principally from the rock.

Drift No. 5.—This drift runs southeasterly from this point and is in solid rock up to station 12+29, where an earth roof developed, and this condition continued until the close of the year. The clay above the rock is very wet, and gravelly at times, and at other places, while dry, is loamy and treacherous. At the close of the year a total of 1383 lineal feet had been excavated, of which 1002½ feet of invert and 335½ feet of arch was bricked up.

Drift No. 6.—This drift running northwesterly from the Kedzie avenue shaft is all in solid rock and at the close of the year 1627 lineal feet had been excavated, of which 702 feet of invert and 657 feet of arch were bricked up.

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SPRINGFIELD AVENUE SHAFT.

Work on this shaft, which is the terminus of the section, and which will serve as the suction well for the new pumping station, was commenced April 21st and completed early in July. On account of water and the uncertain character of the soil, the sinking of the shaft through the clay was done under considerable difficulty. The shaft was timbered through the clay to the rock which was struck at an elevation of —18.6 C. D. The total depth of the shaft is 98½ feet. This shaft was bricked up to a point 29 feet above the center line of the tunnel.

Drift No. 7.—This drift, running southeasterly from this shaft, is all in solid rock and at a point 502 feet from the shaft, of which 450 feet was bricked up, work was discontinued. Connection with this drift will be made by way of Wabansia avenue shaft.

WABANSIA AVENUE SHAFT.

This shaft was located at Wabansia avenue and Monticello street. As the sinking of this shaft proceeded, it was lined with brick. At a point 38 feet below the surface, as explained before, water and quicksand were encountered coming into the shaft in such quantities that the brick work was cracked to such an extent as to render it unsafe. It was decided to abandon this shaft and sink another one on Wabansia avenue just east of Central Park avenue. This shaft was successfully sunk and completed about the middle of November. It was timbered to rock, which is at an elevation of—28 C. D. The total depth of the shaft is 100 feet.

Drift No. 8.—This drift runs northwesterly from this shaft and at the close of the year 163 lineal feet had been excavated, all in solid rock, no brick work having been done during that time.

Drift No. 9.—This drift runs southeasterly from the Wabansia avenue shaft. At the close of the year 151 lineal feet was excavated, none of which was lined with brick. This drift so far is all in solid rock.

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THE FOLLOWING TABLE SHOWS IN DETAIL THE LINEAL FEET OF EXCAVATION AND BRICK WORK DONE ON THIS SECTION UP TO DATE:

YEAR	Drift No. 1.		Drift No. 2.		Drift No. 3.		Drift No. 4.		Drift No. 5.		Drift No. 6.		Drift No. 7.		Drift No. 8.		Drift No. 9.	
	Excav.	Brick lining.	Excav.	Brick lining.	Excav.	Brick lining.	Excav.	Brick lining.	Excav.	Brick lining.	Excav.	Brick lining.	Excav.	Brick lining.	Excav.	Brick lining.	Excav.	Brick lining.
1896.....	1181.0	667.0	1134.5	407.0	698.0	304.0	735.6	241.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1897.....	2147.2	2640.0	1918.5	1908.8	1546.0	1915.0	1812.4	1698.0	1383.0	669.0	1627.0	679.5	502.0	450.0	163.0	.....	151.0	.....
Totals ..	3328.2	3307.0	3053.0	2315.8	2244.0	2219.0	2548.0	1939.0	1383.0	669.0	1627.0	679.5	502.0	450.0	163.0	.....	151.0	.....

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Mr. J. H. Spengler was assistant engineer in charge of this section, when, having been assigned to other duties, he was succeeded in July by Mr. Don J. Barnes, who, in November, was succeeded by Mr. W. D. Barber, the present engineer in charge, who is assisted by Messrs. Frank Holmes and C. L. Crabbs.

RECAPITULATION.

SECTION ONE.

Total number of shafts constructed	3
Total number of feet of tunnel constructed	8,666
Total number of feet of tunnel unfinished	0

SECTION TWO.

Total number of shafts constructed	5
Total number of feet of tunnel completed	9,898.3
Total number of feet of tunnel excavated but not lined	4,703.4
Total number of feet of tunnel remaining	5,254.5

SECTION THREE.

Total number of shafts constructed	5
Total number of feet of tunnel completed	11,579.3
Total number of feet of tunnel excavated, but not lined	3,419.9
Total number of feet of tunnel remaining	7,177.8

NORTHEAST LAKE TUNNEL.

This tunnel is an extension of the new land tunnel and extends from the Oak street shaft, the terminus of section one, in a northeasterly direction under the lake to the new intake crib, two and one-half miles from shore.

OAK STREET SHAFT.

Drift No. 2.—This drift runs northeasterly from this shaft and was commenced October 7, 1896. At the beginning of 1897 work was in progress until January 8th, when, on account of a Court injunction, work was suspended.

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This injunction having been dissolved, operations were resumed January 22d. During the latter part of February electrical power was installed. A ten-horse power motor of special design and capable of hauling eight one-cubic yard cars at a rate of six miles an hour, was successfully operated. During the entire year the character of the material encountered has been uniformly a hard blue clay, interspersed with pebbles and boulders in the bottom and center; overlying this is a rotten clay of varying thickness, and above all a stratum of soft, swelling clay; pockets of black sand, some dry and others carrying water and gas, are encountered. October 20th, when the face of the drift was 5,278 feet from the shaft, a large deposit of black sand and water was encountered. There was a consequent material reduction in the rate of progress until October 28th, when apparently solid ground was again encountered. On the morning of October 30th, a few moments after a blast had been set off in the heading about fifteen feet from the toothing, a break occurred in the roof near the face, through which first came a quantity of dry lake sand, immediately followed by black sand, water and gas. The heading filled up to the toothing with silt and sand running back about seventy-five feet. A temporary bulkhead was at once constructed at station 52, provided with a door and ventilating and drainage pipes. November 28th, believing the material in the face had drained out sufficiently to allow of its being handled, the contractors resumed work; by carefully timbering every foot of progress a seven-foot length was completed; but while the silt was being removed from the section immediately under the hole in the roof, the soft blue clay followed, completely filling the heading and showing so much activity that it was deemed impossible to hold it up with the facilities at hand. The face was securely timbered and the contractors suspended work pending a consideration of the proper means to be employed in order to drift through this place. Operations had not been resumed at the close of the year. The total length of tunnel constructed in this drift during the year is 4,099 lineal feet, with an average daily progress of 16.6 lineal feet. The total distance of the face from the shaft is 5,379 feet.

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INTERMEDIATE CRIB AND SHAFT.

In February the sinking of the steel shaft, 68 feet in length and 14 feet 2½ inches in diameter was commenced. Unexpected timbering was found in the old portion of the substructure of the crib, and it was not until after many ineffectual attempts to seal both the bottom of the crib and the shell that special chisels, weighing 1,800 pounds each, were introduced and the timbers cut out. The sinking of the brick part of the shaft below the steel shell was accomplished without any trouble. July 10th the shaft and crib were completed and tunneling begun in both directions, the center line of the drifts at the crib being —89.0 C. D.

Drift No. 3.—This drift runs westward from the intermediate crib and at the close of the year 2,111 lineal feet had been constructed with an average daily progress of 17.2 lineal feet. The material passed through was principally a hard blue clay, interspersed with pebbles and boulders. Considerable laminated rotten clay was frequently encountered in the roof. At station 12 a bulkhead provided with a door was put in place so as to be prepared in case of any break in the roof, as occurred in the drift at Oak street.

Drift No. 4.—This drift runs from the intermediate crib to the shaft in the new intake crib. November 6 a total of 1,424 lineal feet had been constructed, when work was suspended, as the face of the drift was within 90 feet of the intake shaft, which has not yet been sunk. The average daily progress was 17.5 feet. For the month of October the daily rate of progress was 20.2 lineal feet of completed tunnel. The character of the soil passed through was a hard clay interspersed with pebbles and boulders. The distance between the Oak street shaft and the intermediate crib is 12,510 feet, and between the latter and the intake crib 1,514 feet, or a total length for this lake section of 14,024 feet, equal to 2.66 miles. At the close of the year a total of 8,914 lineal feet had been completed, there remaining to complete at that time 5,110 feet.

CARTER H. HARRISON CRIB. NEW INTAKE SHAFT.

The substructure being completed, the crib was towed from the Government breakwater. where about three feet of concrete had been deposited in the different compartments, to the permanent location August 12th. The sinking was accomplished by pumping water into the well and pockets. When once on the bottom it was held in

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place by the riprap placed temporarily in the various compartments. Later the riprap and water were removed in advance of the concreting and the stone deposited around the outside of the structure to prevent scouring and protect the foundation. Owing to the unfavorable weather all work was suspended December 10th for the winter. At that time the concreting and stone work was completed to the level of the basement floor. Mr. E. W. Jackson is the Assistant Engineer in charge of the work. Mr. H. H. Jackman is his sub-assistant.

SIXTY-EIGHTH STREET TUNNEL EXTENSION.

At the close of the year 1896, a total of 2,136 lineal feet of tunnel had been constructed. The work was carried on satisfactorily in drifts Nos. 1 and 3 until February 9th, when in drift 3, at a point 730 feet east of the lake shaft, water, sand and gas were encountered in the south upper quarter, in sufficient quantity to drive out the workmen. February 22d, after working through this bad ground for a distance of 29 feet on to a point 759 feet east of the lake shaft, the lake broke in and in twenty minutes drifts 2 and 3 and the shaft were filled with water. Work was then suspended at the crib and on March 18th, with the aid of a diver, a hole in the bottom of the lake directly over the tunnel was found. Into this cavity 1,500 cubic yards of clay were dumped. March 23d, work was stopped in drift 1, 3,784 lineal feet east of the shore shaft, as there remained only 97 feet between drifts 1 and 2, the latter being filled with water. March 29th the contractors started to pump out the lake shaft and drifts 2 and 3. This was accomplished by April 13th and a brick bulkhead was put in drift 3 at a point 110 feet east of the shaft. It was then decided to abandon drift 3 and the proposed connection with the west end of the old seven-foot tunnel, and a revised plan was made. This plan called for a detour to the north until a point 150 feet from the original line was reached, thence to run in a direction parallel to the original line and finally connect with the existing tunnels at the junction of the seven and five-foot tunnels. Drift number 4 was started on this line May 19th. In the meantime, connection was made between drifts 1 and 2 and a bulkhead put in drift 2, fifty feet west of the lake shaft. This bulkhead was provided with a door which could be closed in cases of emergency. During April the back drift was extended to a point 240 feet west of the shore shaft. Work progressed satisfactorily on drift 4 until June 22d, 715 feet having been built. At this time it was decided to put

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in an air lock so that the pneumatic process could be adopted whenever the character of the ground justified it. The air lock was completed August 18th and work on drift 4 was resumed. At station 9+58 the stratum of torpedo sand was again encountered. Air pressure did not prove very effective, as the air escaped through the sand and came out to the shaft through the abandoned drift 3. The roof commenced to cave in very badly. A safety bulkhead was put in at station 9+52, this bulkhead being provided with a door, so that in cases of emergency this door could be closed. This torpedo sand continued in the roof until September 16th, when at station 10+47 the lake again broke in, but the door in the bulkhead was closed and the tunnel to the west of the bulkhead was saved. Another detour to the north was then decided on, starting at station 8+60. On this line the work continued without any trouble until station 19+39 was reached, where the torpedo sand was again encountered. Another safety bulkhead was then constructed. This time the air did not escape and very little trouble was experienced. December 24th at station 20+03 the contractors bulkheaded the face, which was 147 feet from where connection is to be made with the present tunnel, and suspended work on account of differences with the City as to the interpretation of the contract. At the close of the year work was still at a standstill. In May a cast iron gate was placed in the shore shaft to shut off the back drift. In July eighty-four feet of the Yates avenue connection was built. This is a five-foot tunnel and will connect the new work with the old Yates avenue shaft. At the close of the year there remained to be done 147 feet of seven-foot tunnel to connect with the present seven-foot tunnel and ten feet of five-foot tunnel to make necessary connection with the Yates avenue shaft. Before this work can be done, the present seven-foot tunnel will have to be drained and isolated. There has been constructed during the year as follows:

Drift No. 1	1,770.0	lineal feet
Drift No. 2	128.4	"
Drift No. 3	721.0	"
Drift No. 4	2,190.0	"
Back Drift	224.4	"
Total seven-foot tunnel	5,033.4	"

Yates avenue connection five-foot tunnel, 84 lineal feet.

Of the above, owing to the various breaks, as before described, a total of 946 lineal feet was abandoned. Mr. R. B. Wilcox is the Assistant Engineer in charge of this work. Mr. E. S. Woods is his sub-assistant.

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SPRINGFIELD AVENUE AND CENTRAL PARK AVENUE PUMPING STATIONS.

Each of these stations is designed to accommodate four twenty million gallon pumping engines, three engines with necessary boilers and appurtenances for each station being contracted for. The Springfield avenue station is located at the terminus of section 3 of the new land tunnel at Springfield avenue and Bloomingdale road, and the Central Park avenue station is at the terminus of section 2, at Central Park avenue and Fillmore street. Both of these stations will be fed by way of the new lake and land tunnels. Contracts for both stations were let April 14th, but, as it was necessary to sink the suction shafts and construct a certain portion of the eight-foot tunnels in order to avoid injury to foundations on account of necessary blasting in the rock drifts, actual construction was not commenced until October. At the close of the year the excavation at the Central Park avenue site had reached an average depth of 16 feet. At Springfield avenue the excavation had reached an average depth of 13 feet. Mr. F. G. Ewald, Assistant Engineer, is in local charge of this work.

DIVISION OF WATER PIPE EXTENSION.

MR. FRANK J. RYAN, Superintendent.

During the year 228,769 feet of mains of the following dimensions were laid:

2,620	feet	4-inch.
139,870	"	6 "
62,154	"	8 "
8,125	"	12 "
4,651	"	16 "
11,349	"	24 "

Of this amount, 86,236 feet of mains of different sizes have been laid under contract by special assessment, and 17,319 feet of pipe, costing $13,149.56, have been laid at the expense of private parties. The City agrees to refund all moneys advanced for water pipe, when the annual revenue from it pays 10 cents per foot frontage. During the year, 125,214 feet of different size pipe have been laid on revenue and for circulation.

The annexation of that portion of West Pullman, lying west of Halsted street, increased the water main system by 2,856 feet 4-inch pipe, 4,683 feet of 6-inch pipe, one 4-inch valve, four 6-inch valves,

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and 23 double hydrants. This additional amount does not appear in report for 1897 of pipe laid and hydrants and valves set; but is included in the tables showing pipe, hydrants and valves in use at the close of 1897.

The following work was done during 1897, which was not included in our report of pipe laid and valves set:

At the Ashland avenue pipe yard there was laid to supply the new water works shops 540 feet of 12-inch pipe, 30 feet of 6-inch pipe, 32 feet of 4-inch pipe, three 4-inch valves and two single hydrants.

On Sedgwick street, south of Chicago avenue, there was laid 120 feet of 4-inch pipe and one 4-inch valve for the private supply of the City Electric Light Station.

Before the construction of the large sewers the water mains and valves were taken out on Forty-seventh avenue, from Colorado avenue to Harvard street; on Madison street from Forty-seventh to Forty-eighth avenues, and Forty-eighth avenue from Park avenue to Chicago avenue, and on Indiana avenue from 110th to 111th streets, which were replaced when sewers were completed.

Thirty-two hundred and sixty-eight brick hydrant and valve basins were built during the year. In the building of basins and repairs 543,160 brick and 1,698 barrels of cement were used.

During the year fire cisterns were built at the following locations:

Cottage Grove avenue, 150 feet south of Twenty-second street.

Twenty-seventh street, east line of Cottage Grove avenue.

Thirty-first street, east line of Cottage Grove avenue.

Dearborn street, north line of Van Buren street.

Van Buren street, east line of Pacific avenue.

Dearborn street, 25 feet north of Polk street.

Water mains have been taken up or abandoned in the following streets and other mains put in:

Bowen avenue, from Cottage Grove avenue to Grand boulevard.

Burling street, crossing Fullerton avenue.

Calumet avenue, from Twenty-fourth street to Twenty-fifth street.

Canal street, from Adams street to Van Buren street.

Cedar street, crossing Wells street.

Center street, from Lincoln avenue to Clark street.

Chestnut street, crossing Clark street.

Chestnut street, crossing Wells street.

Cottage Grove avenue, from Twenty-second street to Thirtieth street.

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Elm street, crossing Clark street.
Elm street, crossing Wells street.
Fortieth avenue, north from Montrose avenue to 155 feet northward.
Forty-fifth court, from Wallace street 996 feet eastward.
Fullerton avenue, from Halsted street to Clark street.
George street, from Perry street to 50 feet east of west line of Southport avenue.
Grace street, from Division street to Vedder street.
Institute place, crossing Wells street.
Irving Park avenue, from 275 feet west of North Forty-fourth court to 155 feet westward.
Jefferson avenue, from Fifty-first street to Fifty-fifth street.
Lincoln street, crossing Clybourn avenue.
Michigan street, from Rush street to Pine street.
Monroe avenue, from Fifty-third street to Fifty-fifth street.
Morgan street, from Forty-seventh street to Forty-seventh place.
Noble avenue, from Halsted street to Sheffield avenue.
Oakdale avenue, from Perry street to Southport avenue.
Oakley avenue, from Madison street to Monroe street.
Orchard street, connecting Fullerton avenue.
Park avenue, from Campbell avenue to 680 feet westward.
Pine street, from Illinois street to Michigan street.
Swan street, from Stewart avenue to Clark street.
Twenty-third street, from Canal street to Portland avenue.
Twenty-third street, from Wabash avenue to Indiana avenue.
Walton place, crossing Clark street.
Washington place, crossing Clark street.
Wendell street, crossing Wells street.
Whiting street, crossing Wells street.
Wolfram street, from Southport avenue to Perry avenue.

Water mains were lowered in the following streets during the year 1897:

Adams street, under C. & N.-W. Ry.
Forty-third street, under C., R. I. & P. Ry.
Forty-fourth street, crossing Armour avenue.
Forty-fifth street, crossing Armour avenue.
Herndon street, from Roscoe street to School street.
Marshfield avenue, from 100 feet south of Sixty-third street to 100 feet north of Sixty-fifth street.
Monroe street, under C. & N.-W. Ry.

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South Park avenue, from Sixty-ninth street to Seventy-second street.

Seventieth street, from Cregier avenue 762 feet westward.

Seventy-first street, from Drexel avenue 246 feet westward.

Seventy-first place, from I. C. R. R. to Woodlawn avenue.

Seventy-second street, from I. C. R. R. to Woodlawn avenue.

Seventy-fourth street, from Woodlawn avenue to Lexington avenue.

Thirty-ninth street, under C., R. I. & P. Ry.

Woodlawn avenue, from Seventy-second street to 346 feet southward.

WORK IN DETAIL.

The following tables show in detail the work of this division:

HYDRANTS PLACED IN 1897.

DIVISION.	2½-inch Single.	2½-inch Double.	4-inch Double.	Total.
North	2	15	.....	17
South	2	24	.....	26
West	30	50	.....	80
Hyde Park	24	34	3	61
Lake View	21	31	.....	52
Lake	17	14	.....	31
Jefferson	59	85	.....	144
Calumet	20	49	.....	69
Totals	175	302	3	480

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HYDRANTS TAKEN OUT IN 1897, WHICH WERE REPLACED BY HYDRANTS OF DIFFERENT SIZES.

DIVISION.	2½-inch Single.	2½-inch Double.	4-inch Double.	Total.
North	10			10
South	13	2	1	16
West	1			1
Hyde Park	6	4		10
Lake View	4			4
Lake		2	1	3
Jefferson				
Calumet	1			1
Totals	35	8	2	45

TOTAL NUMBER OF FIRE HYDRANTS AT THE CLOSE OF 1897.

DIVISION.	2½-inch Single.	2½-inch Double.	4-inch Double.	2½-inch Double, with one 4-inch Single.	TOTAL.
North	406	522	132		1,060
South	784	1,046	193		2,023
West	1,624	4,101	237		5,962
Hyde Park	409	1,774	11	605	2,799
Lake View	251	1,071		1	1,323
Lake	222	817	1	1,596	2,636
Jefferson	231	1,130	4		1,365
Calumet	151	459		55	665
Totals	4,078	10,920	578	2,257	17,883

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STOP-VALVES PUT IN DURING THE YEAR 1897.

DIVISION.	SIZE OF VALVES.								TOTAL
	4-in.	6-in.	8-in.	12-in.	16-in.	24-in.	30-in.	36-in.	
North	.....	16	10	.....	.....	.....	.....	.....	26
South	7	33	3	2	.....	.....	.....	.....	45
West	1	58	29	6	1	.....	.....	.....	95
Hyde Park	.....	48	16	.....	.....	.....	.....	.....	64
Lake View	.....	47	11	7	6	6	1	1	79
Lake	.....	46	11	1	.....	1	.....	.....	59
Jefferson	.....	42	41	5	.....	.....	.....	.....	88
Calumet	.....	29	10	.....	.....	.....	.....	.....	39
Totals	8	319	131	21	7	7	1	1	495

During the year 1897, there were taken out in the North Division twelve 4-inch valves, in the South Division one 4-inch valve, in the West Division one 6-inch valve, in the Hyde Park District eight 4-inch valves, in the Lake View District twelve 4-inch valves, in Lake District six 4-inch valves, in Jefferson District one 6-inch valve, which were not replaced.

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TOTAL NUMBER AND SIZE OF VALVES IN USE AT THE CLOSE OF 1897.

DIVISION.	SIZE OF VALVES.													TOTAL
	3-inch.	4-inch.	6-inch.	8-inch.	10-inch.	12-inch.	14-inch.	16-inch.	18-inch.	20-inch.	24-inch.	30-inch.	36-inch.	
North	....	149	444	304	....	32	...	18	....	....	12	....	8	957
South	....	161	715	660	....	87	....	25	...	....	29	....	13	1,690
West	....	584	2,363	1,234	....	288	....	78	....	....	33	....	11	4,586
Hyde Park	....	85	1,126	292	20	80	4	49	....	1	21	...	6	1,684
Lake View	1	286	768	165	....	38	3	11	....	3	11	1	5	1,242
Lake	....	125	1,158	346	2	70	14	13	2	....	19	....	2	1,751
Jefferson	....	22	685	363	....	71	....	9	....	...	28	....	....	1,128
Calumet	...	5	234	77	....	9	....	2	....	...	1	....	....	328
Totals	1	1,367	7,443	3,441	22	675	21	195	2	4	154	1	40	13,366

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WORK IN DETAIL.

The following tables show in detail the work of water-pipe extension:

NORTH DIVISION.

STREET	FROM	TO	Length of Pipe in feet	Diameter in inches
Cedar	Crossing	Wells	100	6
Center	Lincoln avenue	Clark	685	8
Chestnut	Crossing	Clark	96	6
Chestnut	Crossing	Wells	98	6
Clark	Fullerton avenue	Webster avenue	1,454	12
Elm	West crossing	Wells	60	8
Elm	East crossing	Wells	40	6
Elm	Connecting	Clark	15	8
Elm	Connecting	Clark	6	6
Grace	Division	Vedder	497	6
Hawthorne avenue	90 ft. S. E. of Willow	100 ft. N. W. of Willow	256	6
Institute place	Crossing	Wells	105	6
Michigan	Rush	Pine	374	8
Pine	Illinois	Michigan	291	6
Walton place	Crossing	Clark	55	6
Washington place	Crossing	Clark	67	6
Wendell	Crossing	Wells	105	6
Whiting	Crossing	Wells	100	6
Willow	Clybourn avenue	Hawthorne avenue	690	6
		Total	5,094	
		Add Branch Pipe for Hydrants	24	4
		Add Branch Pipe for Hydrants	180	6
		Total feet of pipe laid in North Division	5,298	

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SOUTH DIVISION.

STREET	FROM	TO	Length of Pipe in feet	Diameter in inches
Calumet avenue	Twenty-fourth	Twenty-fifth	608	6
Cottage Grove avenue	Twenty-second	Thirty-third	7,178	12
Gage place	Crossing	Thirty-fifth court.	60	6
Twenty-third	Canal	Portland avenue	1,000	6
Twenty-third	Michigan avenue	Indiana avenue	345	6
Twenty-third	Wabash avenue	Michigan avenue	389	6
Thirty-first	Crossing	Cottage Grove avenue.	70	12
Thirty-fifth	Laurel	Eastward	170	6
		Total	9,820	
		Add Branch Pipe for Hydrants	24	4
		Add Branch Pipe for Hydrants	288	6
		Total feet of pipe laid in South Division	10,132	

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WEST DIVISION.

STREET	FROM	TO	Length of Pipe in feet	Diameter in inches
Albany avenue	Central Park blvd.	Southward	177	6
*Avers avenue	Connecting	Twelfth	58	6
California avenue	Grand avenue	Northward	124	8
Canal	Adams	Van Buren	867	8
†Chicago avenue	N. Forty-eighth ave.	N. Forty-ninth avenue	602	12
Chicago avenue	N. Forty-eighth ave.	Eastward	26	12
Central Park avenue	300 ft. N. of Ohio	Northward	180	6
*South side of Central Park blvd.	25 ft. E. of W. line Albany ave.	Eastward	309	6
Colorado avenue	Connecting	S. Forty-third avenue	15	8
†Colorado avenue	15 ft. W. of W. line of S. 43d ave.	110 ft. W. of W. line of S. 46th ave.	2,230	8
Colorado avenue	Connecting	S. Forty-sixth avenue	6	8
Cornelia	Crossing	Leavitt	86	6
Cortez	Crossing	Leavitt	86	6
†Crystal	N. Forty-second ave.	N. Forty-third avenue	668	6
Division	N. Fortieth avenue	Eastward	144	12
†Division	Homan avenue	Christiana avenue	283	12
Eighteenth	Crossing	Clifton Park avenue	76	6
Emery	Crossing	Hamlin avenue	78	6
Fifteenth	Crossing	Clifton Park avenue	72	6
*N. Fifty-first avenue	180 ft. N. of Huron	Southward	80	6
†N. Fifty-first avenue	50 ft. N. of Huron	Southward	465	6
†Fillmore	S. Fortieth avenue	S. Forty-first avenue	729	6
†Fillmore	S. Forty-fourth avenue	S. Forty-fifth court	1,088	6
South Fortieth court	Crossing	Twenty-sixth street	48	6
†South Fortieth avenue	Sixteenth	102 ft. S. of Eighteenth	812	8
†South Fortieth avenue	Twenty-fifth	Twenty-sixth	635	8
†North Forty-first court	Hirsch	North avenue	1,312	6
†South Forty-first court	Sixteenth	Southward	350	6
South Forty-first court	Connecting	Sixteenth	25	6
South Forty-first court	Crossing	Twenty-sixth	48	6
†South Forty-second court	Fifteenth	Sixteenth	615	6
†North Forty-third court	Grand avenue	Hirsch	1,188	6
South Forty-third avenue	Crossing	Harvard	56	6
†South Forty-third avenue	Fifteenth	Sixteenth	623	6
†South Forty-fourth court	Fourteenth	Fifteenth	666	6
†South Forty-fourth avenue	Gladys avenue	Jackson blvd	276	8
†South Forty-fourth avenue	Twelfth	Fillmore	666	8
South Forty-fourth avenue	Crossing	Twelfth	48	8
†North Forty-fourth avenue	North avenue	Hirsch	1,304	8
South Forty-fifth avenue	Washington blvd.	Northward	170	6
Frederick	Crossing	Hamlin avenue	74	6
Frederick	Crossing	Avers avenue	68	6
Fourteenth place	Talman avenue	Rockwell	327	6
*Grenshaw	Crossing	St. Louis avenue	42	6
†Grenshaw	S. Forty-second ave.	Westward	598	6
Grenshaw	S. Forty-fourth ave.	S. Forty-fifth court	1,088	6
Haddon avenue	Crossing	Leavitt	36	6
*Harding avenue	Connecting	Twelfth	58	6
†Harding avenue	Sixteenth	Nineteenth	1,395	6
*Harding avenue	Thirty-first	Thirty-second	645	6
*Harding avenue	N. line of Thirty-second	Southward	166	6
Harding avenue	100 ft. S. of Thirty-second	Thirty-third	500	6
†Harrison	S. Forty-first avenue	S. Forty-second ave.	602	8
Harvard	S. Fortieth avenue	Eastward	276	6
†Harvard	S. Forty-first avenue	S. Forty-first court	345	6

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WEST DIVISION—CONTINUED.

STREET	FROM	TO	Length of Pipe in feet	Diameter in inches
†Harvard	S. Forty-second ave	Westward	599	6
Harvard	S. Forty-third avenue	Westward	264	6
†Hirsch	Spaulding avenue	Homan avenue	627	8
†Homan avenue	Central Park blvd	Chicago avenue	1,745	8
Iowa	Crossing	Leavitt	36	6
Iowa	Crossing	Hamlin avenue	31	6
†Iowa	Rockwell	Campbell avenue	740	6
Jefferson	Crossing	Fifteenth place	38	6
Lawndale avenue	480 S. of North ave	424 ft. N. of Hirsch	341	6
Le Moyne avenue	Crossing	Avers avenue	72	6
Le Moyne avenue	Ridgeway avenue	Lawndale avenue	400	6
Nineteenth	Homan avenue	Turner avenue	291	6
North avenue	Grand avenue	N. Forty-fourth ave	113	12
Oakley avenue	Madison	Monroe	400	6
Ogden avenue, north side	Turner avenue	Homan avenue	296	6
Park avenue	Fall	Campbell avenue	1,129	6
Prince	Crossing	Hamlin avenue	74	6
Rice	Crossing	Leavitt	36	6
†Ridgeway avenue	Division	287 ft. N. of Thomas	410	6
Rockwell	Crossing	Augusta	48	12
Rockwell	Crossing	Cornelia	72	12
†Rockwell	Twelfth	Southward	705	6
Sixteenth	Crossing	Clifton Park avenue	72	8
†Sixteenth	S. Fortieth court	S. Forty-second ave	997	8
†Spaulding avenue	Central Park blvd	Southward	499	6
Superior	Crossing	California avenue	40	6
*St. Louis avenue	Grenshaw	Northward	150	6
Thirty-first	Connecting	S. Fortieth avenue	40	8
†Thirty-first	25 ft. E. of W. line of Harding ave	S. Fortieth avenue	293	8
Thomas	Crossing	Leavitt	36	6
†Twelfth	S. Forty-third court	S. Forty-sixth avenue	1,587	12
Twenty-sixth	S. Fortieth avenue	S. Forty-second ave	1,328	16
Twenty-sixth	Connecting	S. Forty-second ave	30	8
Twenty-sixth	Crossing	Hamlin avenue	44	6
*Whipple	Twenty-third	Southward	606	6
*Whipple	Twenty-fourth	Northward	131	6
		Total	37,621	
		Add Branch Pipe for Hydrants	360	4
		Add Branch Pipe for Hydrants	600	6
		Total feet of pipe laid in West Division	38,581	

*Laid by Deposit.

†Laid by Special Assessment.

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HYDE PARK DISTRICT.

STREET	FROM	TO	Length of Pipe in feet	Diameter in inches
1st Alley West of Grand Boulevard..	23 ft. S. of N. line of Forty-Fifth.	Southward	402	6
1st Alley S. of 50th street.	23 ft. W. of E. line of Woodlawn av	Eastward	445	6
†Avenue L.....	106th	110th	2,615	8
Bowen avenue.....	Cottage Grove avenue.	Grand blvd	2,623	6
Burnside avenue.	Connecting	St. Lawrence avenue..	26	6
Calumet avenue.	Crossing	Fifty-seventh.....	66	4
†Central avenue.....	Ninety-second.....	Ninety-third	618	6
Chauncey avenue	Eighty-first	Northward.....	165	6
Dobson avenue.....	Connecting	Seventy-third	10	6
Eighty-first.....	Chauncey avenue.....	Kimbark avenue	288	6
Eighty-first.....	Woodlawn avenue....	Westward	380	6
Eighty-second place.....	Woodlawn avenue	Westward	445	6
Eighty-third.....	Connection.....	46 ft. W. of Superior avenue..	23	8
Eighty-third....	Greenbay avenue.....	Ontario avenue.....	1,329	8
Ellis avenue...	Connecting	Sixtieth	36	6
†Elizabeth avenue.....	Ninety-second.... ...	Ninety-third	621	6
Evans avenue.....	Ninety-third	Lyons avenue	450	6
Evans avenue.....	Connecting	Sixty-ninth	23	6
†Fifty-seventh.....	Indiana avenue.....	South Park avenue....	1,291	6
Fifty-seventh....	State.....	Wabash avenue	375	6
Forty-fourth	Michigan avenue.....	Eastward	152	6
Forty-fourth.....	Prairie avenue.....	Indiana avenue	414	6
Forty-sixth	Woodlawn avenue...	Westward	490	6
Forty-eighth..	Woodlawn avenue...	Greenwood avenue ...	660	6
Grand boulevard, W. side.	Forty-fifth	Northward.....	228	6
Greenbay avenue.....	Crossing	Eighty-third	41	6
Greenwood avenue.....	Connecting	Sixtieth	86	6
Indiana avenue.	114th place.....	115th	360	6
*Jefferson avenue.....	Fifty-first	Fifty-fifth....	2,678	6
Jefferson avenue..	Connecting	Seventy-fourth	42	6
Kimbark avenue..... ...	Eightieth.....	Eighty-first	660	6
Langley avenue.....	Ninety-first...	Ninety-first place.....	336	6
Langley avenue.....	Connecting	Sixty-ninth	28	6
Langley avenue.....	Ninety-fifth..... ..	Burnside avenue.....	460	6
Monroe avenue	Fifty-third	Fifty-fifth	1,600	6
†Ninety-first..	Escanaba avenue.....	S. Chicago avenue ...	474	6
*Ninety-second.....	Connecting.....	Cottage Grove avenue.	70	6
Oglesby avenue..	Connecting	Sixty-seventh	35	16
One Hundredth place.....	135 ft. E. of State.....	Michigan avenue	818	6
†One Hundred and Twenty-Third....	State....	Indiana avenue.....	1,486	6
Prairie avenue	Crossing	Fifty-seventh	72	6
Ross avenue.....	South Park avenue....	Calumet avenue	360	6
Seventy-fourth.....	Jefferson avenue.....	Stony Island avenue ..	640	6
Sixtieth.....	Ellis avenue.....	Greenwood avenue ...	438	8
Sixty-fifth.....	Langley avenue	Champlain avenue....	269	6
†Sixty-ninth....	S. Chicago avenue....	Cottage Grove avenue.	1,844	8
†Seventy-second place.....	Woodlawn avenue....	I. C. R. R	296	6

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HYDE PARK DISTRICT—CONTINUED.

STREET	FROM	TO	Length of Pipe in feet	Diameter in inches
St. Lawrence avenue.....	Ninety-fifth.....	Burnside avenue.....	910	8
†Seventy-third.....	Rhodes avenue.....	St. Lawrence avenue..	305	8
†Seventy-third..	S. Chicago avenue....	Greenwood avenue ...	663	6
†Seventy-fourth.....	Woodlawn avenue....	Lexington avenue ...	312	6
		Total	28,858	
		Add Branch Pipe for Hydrants	288	4
		Add Branch Pipe for Hydrants	444	6
		Total feet of pipe laid in Hyde Park District...	29,590	

*Laid by Deposit.

†Laid by Special Assessment.

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LAKE VIEW DISTRICT.

STREET	FROM	TO	Length of Pipe in feet	Diameter in inches
Addison	Evanston avenue	Westward	65	16
Addison	W. line of Lake Shore Drive	Westward	100	6
Addison	Connection	12 ft. W. of Evanston ave	22	8
Balmoral avenue	W. Ravenswood Park.	Eastward	368	6
Belmont avenue	Blow off	Evanston avenue	54	6
Belmont avenue	Connection	2 ft. W. of Evanston ave	21	8
Belmont avenue	Crossing	Evanston avenue	59	16
*Bowmanville road	Oakley avenue	Irving avenue	370	8
Bradley place	Hoyne avenue	Leavitt	600	6
Bradley place	Crossing	Hoyne avenue	66	6
Buena avenue	Halsted	Westward	6	12
Burling	Connecting	Fullerton avenue	24	6
Carmen avenue	Connecting	E. Ravenswood Park	25	6
Claremont avenue	Sunnyside avenue	Northward	192	6
Clark	Fullerton avenue	Diversey	2,922	16
*Clifton avenue	Evanston avenue	Wilson avenue	600	6
†Crescent place	Evanston avenue	Halsted	656	6
Diversey avenue	21 ft. W. of E. line of Clark	Westward	72	16
Diversey avenue	22 ft. S. of N. line of Clark	Southward	19	6
†Dunning	Southport avenue	High	288	6
†Edgewater avenue	Clark	Southport avenue	1,194	6
†Evanston avenue	Granville avenue	Hood avenue	321	8
Evanston avenue	Diversey avenue	Waveland avenue	6,223	24
Evanston avenue	Waveland avenue	Grace	740	24
Francis	465 ft. E. of Clark	Eastward	84	6
Fullerton avenue	Halsted	Clark	2,269	6
George	Connecting	Perry	24	6
George	Perry	50 ft. E. of W. line of Southport ave	649	6
Grace	5 ft W. of Halsted and	25 ft. S. of N. line of Grace	26	6
Grace	Crossing	Halsted	66	12
Graceland avenue	Connecting	Halsted	9	16
North Halsted	Grace	Montrose blvd	3,958	24
North Halsted	Blow off	Graceland avenue	84	6
North Halsted	Connecting	Montrose blvd	12	12
North Halsted	Montrose boulevard	Northward	52	24
*Hermitage avenue	190 ft. N. of Thome ave	Alley S. of Devon ave	456	6
*Hermitage avenue	Thome ave	Northward	190	6
High	Dunning	Southward	75	4
†Hood avenue	Southport avenue	Evanston avenue	1,321	6
Irving Park avenue	Robey	Lincoln avenue	102	8
*Irving avenue	Bowmanville road	Southward	130	6
*Kennesaw terrace	Halsted	Eastward	562	6
Leland avenue	Robey	Winchester avenue	402	6
*Lincoln	Clybourn avenue	Diversey	917	6
†Magnolia avenue	287 ft. N. of Granville avenue	Devon avenue	970	6
Montrose avenue	Halsted	Northeastward	65	24
Noble avenue	Sheffield avenue	Halsted	1,364	8
†Oakdale avenue	Ashland avenue	Perry	658	6
Oakdale avenue	Perry	50 ft. E. of Southport ave	656	6
Orchard	Connecting	Fullerton avenue	24	8
Perry	Wolfram	George	385	6
*East Ravenswood park	Winnemac avenue	Foster avenue	894	6
East Ravenswood park	Thorndale avenue	Cemetery drive	580	6
Ridge avenue	Southport avenue	Northwesterly	25	6
Robey street	10 ft. S. of S. line Graceland ave	20 ft. N. of N. line of Graceland av	161	16

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LAKE VIEW DISTRICT—CONTINUED.

STREET	FROM	TO	Length of Pipe in feet	Diameter in inches
†Rokeby	Grace	Sheridan road	543	6
Roscoe	Evanston ave.	Westward	69	12
Roscoe	Connection	19 ft. W. of Evanston ave.	15	6
South court	Magnolia avenue	Eastward	201	6
Southport avenue	Edgewater avenue	Northward	120	8
†Sunnyside avenue	Western avenue	Claremont avenue	357	6
Thorndale avenue	E. Ravenswood Park	47 feet W. of Paulina	760	6
Waveland avenue	Lake Shore Drive	Westward	80	6
Wellington avenue	Evanston avenue	Westward	55	12
Wellington avenue	Connection	3 ft. W. line of Evanston avenue	28	6
†Western avenue	Winona avenue	Winnemac avenue	714	8
Western avenue	Connecting	Sunnyside avenue	30	8
†Winthrop avenue	Lawrence avenue	Ainslie avenue	908	6
Wolfram	Southport avenue	Perry	662	6
Wrightwood avenue	Clark	Westward	82	12
Wrightwood avenue	Connection	18 ft. W. of Clark	20	6
	Total		36,731	
	Add Branch Pipe for Hydrants		252	4
	Add Branch Pipe for Hydrants		372	6
	Total feet of pipe laid in Lake View District		37,355	

*Laid by Deposit.

†Laid by Special Assessment.

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LAKE DISTRICT.

STREET	FROM	TO	Length of Pipe in feet	Diameter in inches
1st Alley N. of Fifty-fifth	Crossing	Aberdeen	77	6
1st Alley W. of Halsted	Fifty-fourth place	Southward	154	6
1st Alley S. of Fifty-fifth	State	Westward	149	6
*Aberdeen	Fifty-fourth	Southward	437	6
Armour avenue	Connection	Root	21	6
Artesian	557 ft. S. of Thirty-ninth	Fortieth	88	6
Ashland avenue	North crossing	Sixty-seventh	12	24
Ashland avenue	South crossing	Sixty-seventh	24	24
†Ashland avenue	Sixty-fifth	Sixty-seventh	1,290	8
Bishop	Connecting	Fifty-ninth	6	6
†Bishop	Sixty-sixth	Sixty-seventh	689	6
Forty-second place	Western avenue	Eastward	224	6
Forty-fifth	124 ft. E. of LaSalle	Eastward	132	6
Forty-fifth court	Wallace	Eastward	996	6
Forty-sixth	Winchester avenue	Robey	336	6
Forty-sixth	Union	195 ft. E. of Butler	1,569	6
Forty-seventh place	Centre avenue	Morgan	1,282	6
Forty-eighth	Crossing	Robey	72	6
Forty-ninth	Crossing	Page	70	6
Forty-ninth	Crossing	Lincoln	72	6
Forty-ninth	Crossing	Robey	72	6
Fifth avenue	39 ft. S. of N. line of Fifty-ninth	Northward	285	6
Fiftieth	Crossing	Robey	72	6
Fiftieth	Crossing	Lincoln	72	6
Fiftieth	Crossing	Page	68	6
Fifty-first court	Connection	Robey	46	6
Fifty-second	Connection	Robey	62	6
†Justine	375 ft. S. of Sixty-sixth	Sixty-seventh	252	6
Lafayette avenue	Connecting	Seventy-first	41	6
†Loomis	Sixty-sixth	Sixty-seventh	701	6
Morgan,	Forty-seventh	Forty-eighth	694	8
Oakley avenue	Crossing	Forty-seventh	66	6
Robey	Forty-sixth	Southward	208	8
Robey	Connecting	Forty-seventh	48	8
Root	LaSalle	Eastward	410	6
Sixty-fourth	Stewart avenue	Eastward	446	6
Sixty-fifth	Crossing	Morgan	72	6
Sixty-sixth	Crossing	Morgan	70	6
Sixty-seventh	Connecting	Loomis	88	6
Sixty-seventh	Connection	61 ft. E. of Ashland avenue	22	12
Sixty-seventh	Ashland avenue	Eastward	265	24
Sixty-eighth	Crossing	Morgan	72	6
Sixty-eighth	Halsted	Morgan	1,249	6
†Sixty-ninth	Sangamon	Ada	2,682	6
†Seventy-first	State	Perry avenue	785	8
Swan	Stewart avenue	Clark	2,783	6
		Total	19,181	
		Add Branch Pipe for Hydrants	204	4
		Add Branch Pipe for Hydrants	168	6
		Total feet of Pipe laid in Lake District	19,553	

*Laid by Deposit.
†Laid by Special Assessment.

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JEFFERSON DISTRICT.

STREET	FROM	TO	Length of Pipe in feet	Diameter in inches
1st Alley North Avondale avenue	104 ft. N. W. Troy	Kedzie avenue	280	6
1st Alley North Irving Park boulevard	Connecting	Kimball avenue	12	6
*1st Alley South Montrose boulevard	Eberly avenue	Drake avenue	335	6
Avers avenue	Irving Park avenue	Southward	24	6
Balmoral avenue	N. Fifty-first avenue	N. Fiftieth court	405	6
*Berteau avenue	Milwaukee avenue	148 ft W. of N. Forty-eighth av	880	6
Bernice avenue	N. Forty-eighth ave	N. Fifty-second ave	2,626	6
†Bernard avenue	Irving Park avenue	Elston avenue	1,247	6
†Bernard avenue	Irving Park avenue	1st Alley N. of Irving Park ave	128	6
†Byron	Bernard avenue	Kimball avenue	339	6
Byron	Western avenue	Campbell avenue	657	6
Byron	N. Forty-eighth ave	N. Fifty-second ave	2,620	6
Catalpa avenue	N. Fifty-first avenue	Eastward	280	8
*Central Park avenue	Dunning	Southward	318	8
*Central Park avenue	Dunning	Wrightwood avenue	642	8
Central Park avenue	Wrightwood avenue	Northward	417	8
†Central Park avenue	Belmont avenue	Noble avenue	546	8
†Choctaw avenue	Selwyn avenue	N. Forty-first avenue	1,362	6
†Christiana avenue	Diversey avenue	Woodard avenue	272	6
†Cortland street	Lawndale avenue	Ridgeway avenue	330	8
*Drake avenue	1st Alley N. of Irving Park ave.	Belleplaine avenue	600	6
*Drake avenue	1st Alley S. of Montrose avenue.	N. line Cullom avenue	480	6
Drake avenue	Wrightwood avenue	Northward	177	6
*Eberly avenue	Cullom	Northward	290	6
*Eberly avenue	Montrose boulevard	Southward	320	6
†North Fortieth court	Wabansia avenue	Armitage avenue	1,927	6
†North Fortieth avenue	130 ft. N of Montrose avenue.	266 ft. S. of Chicago River	4,609	8
North Fortieth avenue	Montrose avenue	Northward	155	8
†North Forty-first court	Dickens avenue	Humboldt avenue	667	6
†North Forty-first court	Eastwood avenue	Choctaw avenue	1,105	6
North Forty-first court	Cullom avenue	Northward	283	6
*North Forty-first court	25 ft. S. of Montrose ave	Southward	281	6
†North Forty-first avenue	Bloomingdale road	North avenue	1,343	6
†North Forty-fourth avenue	Bloomingdale road	Cortland avenue	805	8
†North Forty-fifth court	Irving Park avenue	Berteau avenue	1,255	6
North Forty-fifth avenue	Lawrence avenue	Northward	50	8
†North Forty-seventh court	North avenue	147 ft. N. of Wabansia ave	796	6
North Forty-eighth avenue	Byron	Northward	325	8
North Forty-eighth avenue	Byron	Bernice avenue	332	8
†North Forty-eighth avenue	Medill avenue	Fullerton avenue	276	8
†North Fifty-first avenue	Elston avenue	Catalpa avenue	942	8
†Fifty-fourth avenue	Fullerton avenue	Wrightwood avenue	1,332	8
*Francisco	Humboldt boulevard	S. line of Dunning	552	8
Fifty-ninth court	Connecting	Fullerton avenue	41	6
†Fullerton avenue	103 ft. E. of N. Fortieth avenue	Monticello avenue	2,184	12
Fullerton avenue	Connecting	N. Fifty-fourth avenue	25	8
Fullerton avenue	N. Fifty-sixth avenue	Eastward	22	8
Grace	Kedzie avenue	Westward	41	8
Hamlin avenue	74 ft. S. of Dickens ave	Southward	383	8
Harding avenue	Diversey avenue	Northward	515	6
*Hayes avenue	Ballou	1st Alley W. of Kimball avenue	434	6
Hayes avenue	Kimball avenue	Westward	237	6
*Humboldt	Dunning	Humboldt boulevard	547	6
Humboldt boulevard, west side	Fullerton avenue	Northward	130	6
*Humboldt boulevard, south side	Sacramento avenue	California avenue	1,172	6
†Humboldt	41 ft. N. of S. line Wellington av	Southward	385	6

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JEFFERSON DISTRICT—CONTINUED.

STREET	FROM	TO	Length of Pipe in feet	Diameter in inches
Irving Park avenue	Crossing	Avers avenue	69	8
Irving Park boulevard, south side	Bernard avenue	Kimball avenue	261	8
Irving Park avenue	Crossing	Syracuse avenue	66	8
†Kedzie avenue	Belmont avenue	School	586	8
†Kedzie avenue	Roscoe	Grace	2,741	8
†Kimball avenue	Grace	Byron	640	8
Kimball avenue	Belleplaine avenue	Northward	150	8
Kimball avenue	Irving Park boulevard	Northward	137	8
Kimball avenue	30 ft. N. of Melrose	88 ft. N. of School	397	6
*Kimball avenue	Melrose	Northward	50	6
†Lawndale avenue	Cortland	Bloomingdale road	616	6
Lawndale avenue	41 ft. N. of S. line Wrightwood av	Southward	187	6
Lawrence avenue	Elston avenue	Westward	324	8
Lawrence avenue	Milwaukee avenue	118 ft. W. of N. Fifty-fourth ave	688	8
Linden avenue	N. Forty-second ave	Northward	207	6
Marianna avenue	Connecting	Kimball avenue	36	6
McLean avenue	Hamlin avenue	Westward	39	6
*Montrose avenue, S. side	Bernard avenue	Eberly avenue	332	6
Montrose avenue, N. side	Central Park avenue	N. Fortieth avenue	2,464	6
Monticello avenue	Wrightwood avenue	Southward	186	6
Mozart	Humboldt boulevard	Southward	159	6
North avenue	Western avenue	Rockwell	1,300	12
Parker avenue	Ballou	380 ft. W. of Kimball Av	240	6
Parker avenue	Kimball avenue	Westward	426	6
Ridgeway avenue	Cortland	Southward	204	6
†Sacramento avenue	Humboldt boulevard	Southward	196	8
†Sacramento avenue	Wellington	Diversey avenue	1,298	8
School	Kimball avenue	Westward	374	6
Spaulding avenue	Connecting	Wrightwood avenue	47	6
Spaulding avenue	George	Woodward	352	6
Sycamore avenue	Connecting	Irving Park avenue	24	6
†Talman avenue	Connecting	Diversey avenue	58	8
†Talman avenue	Wellington avenue	C. & N.-W. Ry.	1,227	8
*Tripp avenue	Belden avenue	Fullerton avenue	576	6
Wabansia avenue	Crossing	C. M. & St. P. tracks	120	8
Wellington	Connecting	Humboldt	108	6
†Whipple	George	Avondale avenue	1,296	6
Wisner avenue	22 ft. N. E. Milwaukee avenue	Northeastward	510	6
Wolfram	Western avenue	188 ft. W. of Oakley Av	402	6
Wrightwood avenue	Connection	Central Park avenue	36	8
†Wrightwood avenue	Logan Square	Central Park avenue	2,453	8
Wrightwood avenue	Connecting	N. Fifty-fourth avenue	25	8
		Total	60,295	
		Add Branch Pipe for Hydrants	708	4
		Add Branch Pipe for Hydrants	1,020	6
		Total feet of pipe laid in Jefferson District	62,023	

*Laid by Deposit.
†Laid by Special Assessment.

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CALUMET DISTRICT.

STREET	FROM	TO	Length of Pipe in feet	Diameter in inches
†Butler	Ninety seventh	100th	1,986	6
Center avenue	Eighty-eighth	Northward	291	8
Clark	123 ft. S. of 106th place	223 ft. N. of 106th Pl.	412	6
Dearborn	149 ft. N. of 106th place	125 ft. S. of 106th Pl.	340	6
Eighty-eighth	Elizabeth	114 ft. E. of Centre Av.	531	6
*Girard avenue	Ninety-first	Ninety-second	625	6
LaSalle	23 ft. S. of S. line of 106th place	221 ft. N. of N. line of 106 pl	244	6
†LaSalle	118th	119th	664	6
Longwood avenue	Ninety-fifth	Southward	376	6
Loomis	138 ft. S. of Eighty-ninth	Ninetieth	532	6
*Ninety-first	Loomis	Throop	660	8
Ninety-fifth	Pleasant avenue	Longwood avenue	194	8
Ninety-seventh place	44 ft. W. of E. line of Butler.	Eastward	306	6
103d place	Wentworth avenue	State	1,264	6
105th place	Wentworth avenue	Stewart avenue	1,286	6
106th place	Wentworth avenue	Stewart avenue	1,286	6
106th	Wentworth avenue	Stewart avenue	1,286	6
106th place	Clark	Dearborn	332	6
106th place	Wentworth avenue	Clark	703	6
109th place	Wentworth avenue	Westward	532	6
Parnell avenue	Ninetieth	Southward	286	6
Parnell avenue	123d	Southward	549	6
*Throop	Ninety-first	Ninety-second	625	6
Wentworth avenue	103d	108th place	3,627	8
Wentworth avenue	Connection	118th	8	8
Wood	101st place	103d	842	8
		Total	25,409	
		Add Branch Pipe for Hydrants	240	4
		Add Branch Pipe for Hydrants	588	6
		Total feet of pipe laid in Calumet District	26,237	

*Laid by Deposit.
†Laid by Special Assessment.

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RECAPITULATION OF PIPE LAID DURING 1897, INCLUDING HYDRANT BRANCHES.

DIVISION.	DIAMETER OF PIPE IN INCHES.						Total length of Pipe in Feet.
	4-inch.	6-inch.	8-inch.	12-inch	16-inch.	24-inch.	
North	24	2,686	1,134	1,454	.....	.....	5,298
South	24	2,860	7,248	.....	.....	.....	10,132
West	360	22,629	11,389	2,875	1,328	.....	38,581
Hyde Park	733	21,581	7,241	.....	35	.....	29,590
Lake View	327	19,314	3,088	290	3,288	11,048	37,355
Lake	204	16,001	3,025	22	.....	301	19,553
Jefferson	708	34,424	23,407	3,484	.....	.....	62,023
Calumet	240	20,375	5,622	.....	.....	.....	26,237
Totals in feet	2,620	139,870	62,154	8,125	4,651	11,349	228,769

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TABLE SHOWING AMOUNT OF PIPE IN THE CITY OF CHICAGO AT THE CLOSE OF 1897.

Diameter of Pipe.	1896.	1897.			
	Amount in Use in Feet.	Amount Taken Up or Abandoned in Feet.	Amount Laid in Feet.	Grand Total in Feet in Use at the close of 1897.	Grand Total in Miles.
48	1,355	.....	.....	1,355	$0\frac{1355}{5280}$
36	117,937	.....	.....	117,937	$22\frac{1777}{5280}$
30	5,351	.....	.....	5,351	$1\frac{71}{5280}$
28	160	.....	.....	160	$0\frac{160}{5280}$
24	281,022	.....	11,349	292,371	$55\frac{1371}{5280}$
20	7,931	.....	.....	7,931	$1\frac{2651}{5280}$
18	1,000	.....	.....	1,000	$0\frac{1000}{5280}$
16	235,095	.....	4,651	239,746	$45\frac{2145}{5280}$
14	22,552	.....	.....	22,552	$4\frac{1432}{5280}$
12	514,623	155	8,125	522,593	$98\frac{1453}{5280}$
10	26,860	.....	.....	26,860	$5\frac{460}{5280}$
8	1,863,465	.....	62,154	1,925,619	$364\frac{2939}{5280}$
6	4,764,803	275	139,870	4,904,398	$928\frac{4958}{5280}$
4	1,085,999	29,311	2,620	1,059,308	$200\frac{3308}{5280}$
3	8,996	.....	.....	8,996	$1\frac{3716}{5280}$
Total in feet.....	8,937,149	29,741	228,769	9,136,177	.....
Total in miles....	$1,692\frac{3389}{5280}$	$5\frac{3341}{5280}$	$43\frac{1769}{5280}$	$1,730\frac{1777}{5280}$	$1,730\frac{1777}{5280}$

Amount of wooden pipe in use in Norwood Park, 16,618 feet of 4-inch and 325 feet of 6-inch, not included in above.

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DIVISION OF BRIDGE AND VIADUCT CONSTRUCTION.

MR. A. G. RITER, Bridge Engineer in Charge.

PUMPING STATION ROOFS.

Complete detail plans were prepared by this division for the roofs over the proposed pumping stations at Springfield avenue and at Central Park avenue.

CELL HOUSE FOR JUVENILE OFFENDERS.

Plans were prepared for the roof trusses and plate girders for the addition to the John Worthy School at the Bridewell, known as the Cell House for Juvenile Offenders. All the material is now in position and the job completed.

LAKE FRONT VIADUCT.

Various sections of the work of completing the survey and plat for the Lake Front Bridge and Viaduct have been done at odd times during the present year and the plat will shortly be completed showing the two routes available for this great structure.

WELLS STREET VIADUCT.

This viaduct, which it was supposed would be built during the early spring, is still an affair of the future, owing to the complete stoppage of all work by the North-Western Elevated Railroad, which, in connection with the Chicago and North-Western Railway, is to pay the entire cost of construction. The present structure is in a very bad condition and the new span should be erected as soon as possible.

IRVING PARK BOULEVARD BRIDGE.

Plans were made for a modern plate girder span over the north branch of the river, and considerable work in the way of strengthening the old abutments and extending the wing walls was done by the Street Department. In view of the possible early improvement of the river and the necessity for building a bascule bridge, the North Chicago Street Railway Company, in order to provide for street car traffic, was permitted to strengthen the old bridge by pile and trestle bents.

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MONTROSE BOULEVARD BRIDGE.

This bridge was moved north to make its center line coincident with the center line of street, and reinforced by pile bents, all of which was done by the North Chicago Street Railroad Company at their own expense.

JACKSON STREET BRIDGE. (GIRDER SPAN.)

The former plate girder span at the east end of Jackson street bridge was entirely remodeled by, and at the expense of the South Park Board, who caused additional girders and an entirely new buckle plate and concrete floor to be put in, thereby carrying the asphalt directly up to the bridge.

THE NEW CRIB.

Plans are being prepared for the superstructure of the new intake crib for the new lake tunnel, it being proposed to make this crib the most complete and architecturally appropriate of any crib heretofore built.

WATER METER PLANS.

Complete detail drawings for an 1½-inch water meter were prepared and prints furnished.

ELEVATED RAILROADS.

In order to see that City ordinances are complied with, the inspection of all work done by the various elevated railroads comes under the jurisdiction of this Bureau, and inspection of the following work was made:

THE UNION LOOP.

The Union Loop was practically completed and trains began using it on October 4th. Work of various kinds in the way of alterations and additions is still being done.

ALLEY "L" CONNECTION.

Work on the superstructure of the Alley "L" connection with the Union Loop, extending from Wabash avenue and Van Buren

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street to the alley between Wabash avenue and State street on Harrison street, was commenced on Monday, October 4th, and on Sunday, October 17th, trains began using the Loop.

RAISING ALLEY "L" AT SIXTEENTH STREET.

On October 4th, the work of raising the Alley "L," to give an additional height of 11 feet 6 inches over the tracks of the St. Charles Air Line, at Sixteenth street, was commenced and carried to completion without any interruption to traffic on the road, the third rail electrical system being under installation at the same time.

RAISING METROPOLITAN "L" AT ROCKWELL STREET.

The truss span of the Metropolitan Elevated road over the Pan Handle and North-Western Railroad tracks on Rockwell street was raised 6 feet 3½ inches without interruption to traffic. Work was commenced on or about June 1st, and completed July 30th.

RAISING LAKE STREET "L" AT ROCKWELL STREET.

The three girder spans of the Lake street elevated road formerly crossing the Pan Handle and C. & N.-W. Railway tracks were removed and a three-truss through span, extending clear across the right of way, substituted therefor. Three or four of the adjacent girder spans east and west were raised to the new elevation, the whole work being done without interruption to traffic on the "L" road. Work commenced about July 28th and was completed October 4th.

TRACK ELEVATION PLANS.

At various times during the year blue printed plans for different portions of the track elevation work have been turned over to this division for rechecking and comparison with the several ordinances under which work was to be prosecuted.

MISCELLANEOUS.

A plat and estimate with report was furnished with regard to the feasibility of converting the foot passages of the Washington and La Salle street tunnels into cycle paths. Numerous plats, plans and sketches, with the necessary data were furnished the Law and other departments.

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DIVISION OF BRIDGE AND VIADUCT MAINTENANCE AND REPAIRS.

J. E. ROEMHELD, Assistant Engineer in Charge; PATRICK WHITE, Superintendent.

During the first four months of the year 1897, $62,000 of the $100,000 appropriated, was expended, leaving a balance of $38,000 to be expended during the balance of the year on the repairs necessary to keep 100 or more public structures in proper repair. At no time was traffic suddenly shut off on account of any repairs made. In this report, a detailed account will only be given of those structures upon which important repairs were made.

Below is a statement of expense of repairs and maintenance of each bridge and viaduct:

BRIDGES.

Adams street bridge	$ 1,151 09
Archer avenue bridge	1,485 58
Ashland avenue bridge, river	540 24
Ashland avenue bridge, canal	345 97
Ashland ave. and Thirty-ninth street bridge	131 61
Belmont avenue bridge	120 48
Chittenden street bridge	2,195 06
Crawford avenue bridge	15 40
Clark street bridge	6,082 04
Canal street bridge	5,589 10
Chicago avenue bridge	1,745 22
Clybourn place bridge	552 04
Deering street bridge	212 12
Diversey avenue bridge	193 37
Dearborn street bridge	2,699 15
Division street bridge, river	658 24
Division street bridge, canal	1,882 58
Erie street bridge	796 61
Fullerton avenue bridge	127 25
Fuller street bridge	919 02
Halsted street bridge, river	4,511 97
Halsted street bridge, canal	2,727 84
Halsted street bridge, south	3,803 56
Harrison street bridge	2,369 03
Indiana street bridge	574 35
Jackson street bridge	4,280 30
Kinzie street bridge	1,764 73
Kedzie avenue bridge (canal)	565 99
Laurel street bridge	73 55
Lake street bridge	887 62

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Lincoln avenue bridge	$	31 00
Madison street bridge		1,680 39
Main street bridge		1,470 06
North avenue bridge		1,050 98
North Western avenue bridge		1,306 35
Polk street bridge		760 88
Peterson avenue bridge		31 36
Rush street bridge		2,943 10
Randolph street bridge		3,404 62
Riverdale bridge		55 40
State street bridge		3,389 95
South Western avenue bridge		806 56
Taylor street bridge		497 59
Van Buren street bridge		2,098 95
Webster avenue bridge		561 22
Weed street bridge		587 34
Wells street bridge		303 76
Washington street bridge		3,267 22
Twelfth street bridge		1,778 15
Eighteenth street bridge		2,190 82
Twenty-second street bridge		1,726 71
Thirty-fifth street bridge		1,169 12
Ninety-second street bridge		1,361 72
Ninety-fifth street bridge		1,993 73
106th street bridge		7 00
General bridges		23,093 47

VIADUCTS.

Ashland avenue viaduct, north	$	1,605 74
Adams street viaduct		9 16
Blue Island ave. and Throop street viaduct		2,758 94
Canal and Sixteenth street viaduct		1,282 33
Chicago avenue and Halsted street viaduct		6 75
Center avenue viaduct		82 58
Clark street viaduct, North		279 43
Dearborn avenue viaduct		302 15
Desplaines street viaduct		88 71
Erie street viaduct		351 00
Halsted and Sixteenth street viaduct		1,328 93
Harrison street viaduct		8 00
Indiana street viaduct		383 64
Jackson street viaduct		9 60
Lake street viaduct		166 40
Milwaukee avenue viaduct		9 40
Ogden avenue viaduct		2,465 30
Polk street viaduct		21 35
Randolph street viaduct		26 10
Sangamon street viaduct		182 75

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State street viaduct	$	205 65
Western avenue viaduct, north		597 78
Washington street viaduct		213 20
Wells street viaduct		144 31
Twelfth street viaduct		3.359 91
Total	$	122,457 67
Stock on hand at shops, Lake and Eighteenth streets		4,212 30
Total	$	126,669 97

In addition the following bridges and viaducts were painted:

BRIDGES.	VIADUCTS.
Canal street bridge.	Ogden avenue viaduct.
Clark street bridge, partly.	Clark street viaduct.
State street, partly.	Dearborn street viaduct.
North Halsted bascule bridge, partly.	

In addition a large amount of painting was done at the various pumping stations, and the two and four mile cribs were thoroughly renovated and painted inside, by men from this division.

The most important pieces of work done by the Bridge Repair Department during the year are as follows:

A new bridge was built over the Calumet river at Chittenden road (fully 14 miles from the center of the City), in place of the old and decrepit structure so often condemned, but never acted upon until this year. The entire work of designing and building the new bridge in every detail was done by the regular bridge force.

Ashland avenue viaduct, a structure 420 feet in length, has been entirely refloored and repaved at the expense of the various railroad companies passing beneath it.

Blue Island avenue viaduct, another very long structure, has been renewed as above; also Halsted and Sixteenth street viaduct, and, like the above, will be paid for by the various steam roads running underneath same.

An unusual event in bridge building history took place in the case of renewing a set of old and worn wheels under the centre of the Madison street bridge. By the interlocking wedge system (an invention of J. E. Roemheld, of this bureau) the bridge was raised 2½ inches in less than five minutes, directly in the line of the street; and while the eighty old wheels were removed and a new set substituted traffic of all kinds went over the bridge uninterruptedly. Heretofore, for an operation of this kind, it has been necessary to erect heavy timber falsework in the centre of the river upon which

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the bridge was slowly and laboriously jacked up by a large force of men and hundreds of jack-screws. This necessarily prevented the use of the bridge for a period of about eighteen hours. Under the new interlocking wedge system all this annoying delay was entirely obviated.

The operating machinery of the Canal street jack-knife bridge being unsatisfactory, it was removed and a new and simple quadrant and pinion substituted which has proven very satisfactory and has rendered this bridge one of the best on the river.

Another very important piece of work is being accomplished in equipping the down-town bridges with electric turning power. Although all these bridges contain steam turning machinery, it has been found that electricity is more economical, cleaner, easier to handle and quicker than steam. The work of installing these equipments was done entirely by our own men, under the immediate supervision of Mr. J. E. Roemheld, and is in every respect thorough, has cost less, and is superior than similar work done by contract. These installations were executed without the least interference with the ordinary operation of the bridges. The steam machinery is undisturbed and remains as a reserve, should such be needed at any time.

Rush Street Bridge.—The various replacings of rack segments during the past ten years had disturbed the proper pinion and rack relations, with the result that the pinion shafts were frequently bent and out of adjustment. To obviate the installation of an entirely new rack circle an equalizing gear was introduced upon the main horizontal distributing shaft which has compensated the inequalities of the rack circle in a very satisfactory manner. An entirely new maple sidewalk was put upon this bridge.

State Street Bridge.—The bridge was equipped with electric operating machinery. The old limestone substructure has become so badly disintegrated that permanent repair to same is impossible and a new structure is inevitable. The bridge is about five inches out of level and can only be swung one way.

Dearborn, Clark, Randolph and Jackson Street bridges were each equipped with electric operating machinery. No other work of special importance was done to these bridges.

The West Approach to Harrison Street bridge was almost completely rebuilt.

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Taylor Street Bridge.—A new upper track was put into the turntable drum.

Madison Street Bridge.—A submarine cable, preparatory to electric equipment, was put in for this bridge, also at Washington street bridge and at Twelfth street bridge.

Twenty-second Street Bridge.—A few accidents by collision to the piling of this bridge occasioned considerable reconstruction.

South Halsted Street Bridge received its annual overhauling of mechanical parts, which means a very considerable piece of work.

Main street bridge protection was repaired and new turntable tracks and wheels put in.

Archer Avenue Bridge.—The old and rotted center pier was completely raised and new pine cribbing built in its stead. A new set of wheels and turntable track were also put in. This is one of the bridges which has outlived its utility, and should be replaced by a new structure.

Thirty-fifth Street Bridge.—Collision with vessels caused considerable work here.

Ninety-fifth Street Bridge.—Center pier had become very shaky owing to deep dredging. A circle of piles was driven around the pier and the interior filled with riprap, which has remedied the trouble.

Kinzie Street Bridge.—Was replanked throughout and west approach was re-enforced in foundation.

North Halsted Street Lift Bridge.—Housing was built around machinery, and scaffolding built all around the mechanical parts, so as to afford easy access to same. The electric air pumping apparatus having proven deficient, a new railway air pump was installed similar to the one at Van Buren street bridge.

Weed Street Bridge.—New cables were put in.

North Avenue Bridge.—A new center pier platform was built and protection repaired.

North Western Avenue Bridge.—The trusses of the bridge were completely dismantled and new material put into the top chord and the entire structure was readjusted. In addition to the above the center pier was re-enforced and filled with riprap.

Lake Street Viaduct.—Was repaved and sidewalks replanked with maple.

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DIVISION OF HARBORS OF THE CITY OF CHICAGO.

CONSISTING OF THE CHICAGO RIVER AND BRANCHES AND THE CALUMET RIVER AND ITS BRANCHES.

RICARD O'S. BURKE, Assistant Engineer in charge.
CAPT. JOHN ROBERTS, Harbor Master.
THOMAS J. ELDERKIN, Vessel Dispatcher.

During the year the City of Chicago did no dredging (no appropriation for that purpose having been made) except the following:

Dredge cuttings were removed from the main Chicago river to allow of the laying of the electric cable for operating the machinery of the bridges there at a total cost of $1,696.00, which was paid out of the bridge and viaduct repair appropriation.

At Slip A, in the west fork of the south branch of the Chicago river, into which a nine-foot sewer flows, was dredged to remove all sewer deposit therefrom. This work was done between April 8th and 17th by the Fitz-Simons & Connell Company, who removed 8,113 cubic yards, at 20 cents—$1,622.60. This amount was paid out of the sewer fund.

The United States continued the work of improving the Chicago and Calumet rivers, the following work being done—viz.:

Chicago river, north branch.....563,693 cubic yards, $54,678.22
South branch and main river.....539,359 cubic yards, $58,796.15
Calumet river.....320,405 cubic yards, $42,453.66

The Chicago river was dredged to 17 feet below datum from about 500 feet west of Iron street bridge to Webster avenue on the north branch, including the Ogden canal, and the Calumet river was dredged to 20 feet below datum from its mouth to 106th street, to a width of 200 feet, with a turning basin of three acres in area near Ninety-third street.

The sanitary district of Chicago dredged the west fork of the south branch from Robey street towards Ashland avenue, cutting to a depth of 22.5 feet below city datum, removing 103,370 cubic yards, at 19 cents—$20,970.30, under permits from the Department of Public Works.

Private dredging was done as follows:

Chicago river, 6 permits.....fees $ 40.00, cutting 8,000 cubic yards
Calumet river, 7 permits.....fees 164.00, cutting 32,800 cubic yards

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Building and repairing of docks received no appropriation from the Council for 1897; many of our streets and docks are in consequence in very bad condition. Under special order the ends of Ninety-fifth street on the Calumet river were improved, 103 feet of dock having been repaired there at $6.45 per lineal foot, $664.35.

Under permits from the Department of Public Works the following dock work was done:

Chicago river and Lake Front, 31 permits	fees, $1,158.50
New docks built	2,536 lineal feet
Old dock rebuilt	1,912 lineal feet
Old dock repaired	952 lineal feet
Calumet river, 14 permits	fees, $194.62
New docks built	200 lineal feet
Old docks rebuilt	559½ lineal feet
Old docks repaired	35 lineal feet

The total dock frontage in the Chicago and Calumet rivers is over fifty-one miles. The following miscellaneous work was included in the dock permits during 1897:

Repairing the following bridge protections, viz:

Cal. & B. I. R. R. bridge at Ninety-second street, Calumet river.
Baltimore & Ohio R. R. and L. S. & M. S. R. R., Calumet river.
Rebuilding protection of Penn. R. R. Co.'s drawbridge, Calumet river.
Fenders for protections, Ft. Wayne R. R. and L. S. & M. S. R. R., Calumet river.

ELEVATION OF LAKE MICHIGAN.

As was indicated by the climatic conditions of January, 1897, some slight increase in the elevation of the lake level over year 1896 was the result. This slight evidence of improvement may not increase during 1898 because of the decrease in precipitation in 1897 over the basin of the upper lakes, though the increase in mean barometric pressure and the decrease in mean temperature over the same area for 1897 are favorable to an improvement. Notwithstanding the low level of Lake Michigan, our trade for year 1897 increased 1,311,423 tons over that for year 1896, a most promising showing against these unfavorable conditions.

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During the year the following vessels were damaged through collision with bridges over the Calumet and Chicago rivers:

May 3, steamer George Dunbar, Madison street bridge	$ 175.00
May 7, steamer Cadilac, North Halsted street bridge, north branch	38.40
May 18, schooner Ida, Jackson street bridge	2,200.00
June 8, schooner Mendosa, Lake street bridge	75.00
June 13, schooner J. C. Richards, Madison street bridge	112.65
July 12, schooner Resumption, Dearborn street bridge	
July 19, schooner Naragansett, Randolph street bridge	84.62
September —, steamer Fred Mercur, Ninety-second street bridge	80.40
September 13, steamer Seneca, State street bridge	214.51
October 19, schooner Les Sturgis, Twenty-second street bridge	44.44

During the year many efforts have been made to encroach on the harbor area along the lake front by the building of piers and other structures. These illegal practices have been stopped. An appropriation for a detail survey of the lake front from limits to limits, showing all rights, municipal and riparian, has been asked for this year.

An appropriation has been asked for the widening of the north branch from Leavitt street to a point east of Robey street, the chief items being:

Land values north of Diversey street bridge	$13,600 00
Dredging approaches by Diversey street bridge	40,931.70
Removing of dock south of Diversey street bridge	1,900.00

CITY OF CHICAGO—SUMMARY OF COMMERCE BY LAKE.

Entrances.	No.	Tons.	Totals.	Tons.
Chicago river	7,619	5,340,648		
Calumet river	1,288	1,808,149	8,907	7,148,797
Clearances.				
Chicago river	7,551	5,268,225		
Calumet river	1,407	1,860,213	8,958	7,128,438
City of Chicago totals.			17,865	14,277,235
Average cargo, Chicago river			700 tons	
Average cargo, Calumet river			1,361 tons	
Average cargo, City of Chicago			799 tons	

Of the lake commerce the following items are selected for year 1897:

Shipped from Chicago:				
Flour, bbls	1,517,978	as against	1,736,935	in 1896
Grain, bus	168,131,073	as against	110,952,258	in 1896
Pkgs. mis. mdse.	6,946,192	as against	2,415,236	in 1896
Received at Chicago:				
Coal, tons	681,022	as against	1,360,300	in 1896
Lumber, laths and shingles, feet.	1,779,079,000	as against	940,116,000	in 1896
Grain, bus	283,505,593	as against	127,821	in 1896
Pkgs., mis. mdse	10,643,506	as against	13,230,269	in 1896

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Comparative statement of entrances and clearances for the fiscal year ending June 30th, 1897:

	Entrances.	Clearances	Total.
Baltimore	2,420	3,097	5,517
Boston	2,906	3,029	5,935
New Orleans	1,313	1,300	2,613
Philadelphia	1,778	1,996	3,774
San Francisco	1,149	1,104	2,553
Group totals	9,566	10,526	20,092
Chicago	8,907	8,958	17,865
New York	7,038	6,828	13,866

Chicago less than total for Baltimore, Boston, New Orleans, Philadelphia and San Francisco 2,227
Chicago more than New York 3,999

Statement of the tonnage of the principal American and European ports for year 1895:

	Tons		Tons
London	14,546,001	Antwerp	10,654,190
New York	13,464,396	Boston	3,280,387
Chicago	12,631,180	Philadelphia	2,635,764
Liverpool	10,481,540	Baltimore	1.962,636
Cardiff	10,201,125	New Orleans	2,148,806
Hull	3,763,339	San Francisco	2,386,915
Tyne Ports	8,115,272	Puget Sound	2,240,466
Glasgow	3,096,276	Dunkirk	2,222,722
Havre	4,158,652	Marseilles	7,127,504
Bordeaux	1,816,268	Chicago, 1897	14,277.235

Year 1895. Increase or decrease on prior year:

		Tons.	
London	increase	112,421 or	.8 of 1%
New York	decrease	1,869,002 or	12.2%
Chicago	increase	2,347,002 or	22.8%
Liverpool	decrease	8,038 or about	.1 of 1%
Cardiff	decrease	277,269 or	2.6%
Antwerp	increase	570,912 or	5.7%

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TONNAGE OF THE DISTRICT OF CHICAGO, 1897.

ENTRANCES.

PORTS.	COASTWISE TRADE.						FOREIGN TRADE.						TOTALS.	
	STEAM.		SAIL.		TOTALS.		STEAM.		SAIL.		TOTALS.			
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Chicago	5,592	4,620,359	1,922	658,234	7,514	5,278,593	50	37,895	55	24,160	105	62,055	7,619	5,340,645
South Chicago	785	1,153,883	498	648,181	1,283	1,802,064	5	6,085	.....	.....	5	6,085	1,288	1,808,149
Michigan City	179	46,944	70	13,701	249	60,645	.....	.....	.....	.....	.....	.....	249	60,645
Totals	6,556	5,821,186	2,490	1,320,116	9,046	7,141,302	55	43,980	55	24,160	110	68,140	9,156	7,209,442

CLEARANCES.

PORTS.	COASTWISE TRADE.						FOREIGN TRADE.						TOTALS.	
	STEAM.		SAIL.		TOTALS.		STEAM.		SAIL.		TOTALS.			
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Chicago	5,468	4,477,293	1,833	608,923	7,296	5,086,216	145	127,119	110	54,890	255	182,009	7,551	5,268,225
South Chicago	831	1,166,041	515	637,191	1,346	1,803,233	43	43,560	18	14,421	61	56,981	1,407	1,860,213
Michigan City	177	45,606	66	11,280	243	56,886	.....	.....	.....	.....	.....	.....	243	56,886
Totals	6,471	5,688,940	2,414	1,257,394	8,885	6,946,334	188	169,679	128	69,311	316	238,990	9,201	7,185,324

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THE FOLLOWING TABLE SHOWS THE ELEVATION OF LAKE MICHIGAN.

MONTHS, 1897.	ELEVATION OF WATER (MONTHLY MEANS). Four Mile Crib.				REMARKS.
	Max.	Min.	Mean.	Range.	
January	+0.10	−1.10	−0.42	1 20	
February	+0.60	−1.30	−0.36	1.90	
March	+0.50	−0.65	−0.15	1.15	
April	+1.30	−0.90	+0.06	2.20	
May	+1.30	+0.15	+0.59	1.15	
June	+1.40	+0.45	+0.83	0.95	
July	+1.60	+0.50	+1.04	1.10	
August	+1.45	+0.50	+1.01	0.95	
September	+1.25	+0.35	+0.73	0 90	
October	+0.85	−0.15	+0.47	1.00	
November	+1.30	−0.65	+0.25	1.95	
December	+0.65	−0.80	−0.04	1.45	
Mean Year, 1897	.....	.....	+0.33	.....	

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COMMERCE BY LAKE AND CANAL—CITY OF CHICAGO,

From 1848 to 1896, by years, with population 1831 to 1897. Compiled from official records of the Department.

Year.	VESSELS BY LAKE.			BY ILL & MICH. CANAL.			Population.	Remarks.	
	Total No.	Total Tonnage.	Average Cargo, Ton.	Boats, No.	Tonnage.	Tolls Dollars.			
1848	.....	.....	.....	.....	.....	87,890	20,023		
1849	.....	.....	.....	.....	.....	118,375	23,047		
1850	.....	.....	.....	.....	.....	125,504	28,269		
1851	.....	.....	.....	.....	.....	173,300	34,000		
1852	.....	.....	.....	.....	.....	168,577	38,784		
1853	.....	.....	.....	.....	.....	173,372	60,662		
1854	.....	.....	.....	.....	.....	198,326	65,872		
1855	.....	.....	.....	.....	.....	180,519	80,023		
1856	.....	.....	.....	.....	.....	184,310	86,000		
1857	.....	.....	.....	.....	.....	197,880	93,000		
1858	.....	.....	.....	.....	.....	197,171	84,000		
1859	.....	.....	.....	.....	.....	132,147	94,000		
1860	.....	.....	.....	201	367,437	138,554	109,460		
1861	.....	.....	.....	194	547,295	218,040	120,000		
1862	14,687	3,847,246	262	211	673,590	264,647	137,030	*Population Prior Years.	
1863	17,135	4,333,832	252	240	619,599	210,386	150,000		
1864	17,762	4,339,770	244	228	510,286	156,607	161,288		
1865	20,179	4,199,135	208	228	616,140	300,810	178,492		
1866	22,199	4,620,092	208	230	746,815	202,958	200,418	1831	60
1867	24,370	5,101,203	209	209	746,954	252,231	225,000	1832	600
1868	26,399	6,005,403	265	218	737,827	215,720	252,054	1833	350
1869	27,602	6,273,346	227	219	817,738	238,759	280,000	1834	1,800
1870	25,172	6,033,207	239	179	585,970	149,685	298,700	1835	3,265
1871	24,632	6,178,336	251	186	628,975	159,050	334,270	1836	4,000
1872	25,353	6,077,542	239	178	788,641	165,874	367,396	1837	4,179
1873	23,784	6,564,542	239	172	849,533	166,641	380,000	1838	4,000
1874	21,547	6,329,711	294	152	712,020	144,881	395,400	1839	4,200
1875	21,095	6,279,055	298	142	676,025	107,081	407,000	1840	4,470
1876	19,245	6,167,736	320	146	691,946	113,293	420,000	1841	5,500
1877	20,517	6,585,415	321	145	605,912	96,918	439,776	1842	6,590
1878	20,984	7,239,673	345	140	598,792	84,330	450,000	1843	7,580
1879	23,873	7,757,395	325	136	669,559	89,064	475,000	1844	8,000
1880	25,520	9,154,351	345	133	751,360	92,296	503,298	1845	12,088
1881	26,005	8,762,247	337	133	826,133	85,130	540,000	1846	14,169
1882	26,977	9,754,949	362	132	1,011,287	85,947	560,693	1847	16,859
1883	23,982	7,790,337	325	132	925,575	77,975	580,000		
1884	22,826	7,508,696	330	134	956,721	77,102	630,000		
1885	21,542	7,306,222	339	135	827,355	66,800	664,634		
1886	22,372	7,877,080	352	130	808,019	62,516	704,000		
1887	23,972	8,749,852	365	132	742,074	58,024	760,000		
1888	22,095	8,890,658	402	127	751,055	56,028	830,000		
1889	21,788	10,267,831	471	114	917,047	60,605	1,100,000		
1890	20,133	10,116,051	502	104	742,392	65,112	1,200,000		
1891	19,680	10,862,898	522	97	641,156	49,557	1,320,000		
1892	21,123	11,780,393	565	95	783,288	54,937	1,450,000		
1893	17,044	10,788,029	632	82	529,816	38,702	1,600,000		
1894	16,202	10,284,178	635	85	617,811	44,928	1,640,000		
1895	18,232	12,681,180	698	88	591,407	39,106	1,725,000		
1896	16,999	12,965,812	763	67	446,762	34,543	2,000,000		
1897	17,865	14,277,235	799	64	600,000	41,000	2,100,000		

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TABLE SHOWING MOVEMENTS OF COMMERCE BY LAKE, IN PERIODS FROM 1862 TO 1897, BOTH INCLUSIVE.

Period.	Yearly Average Tonnage.			Yearly Average No. Vessels.			Yearly Average Cargo.		
	Tons.	Increase or Decrease.		No.	Increase or Decrease.		Tons.	Increase or Decrease.	
		Tons.	Per cent.		No.	Per cent.		Tons.	Per cent.
1862 to 1870	4,972,582	.....	.....	21,723	.....	.....	229	.....	.....
1871 to 1880	6,833,376	+1,860,794	37.4	22,650	+ 927	+ 4.3	302	+ 73	32.0
1881 to 1890	8,702,693	+1,869,317	27.4	23,169	+ 519	+ 2.3	376	+ 74	24.4
1891 to 1897	11,941,389	+3,238,696	37.2	18,164	—5,005	—27.6	667	+291	77.4

A study of the foregoing table is instructive. We see that our trade by the lake for the ten years ending 1880 averaged annually $37\frac{4}{10}$ per cent. more than the annual average from 1862 to 1870, but for the next ten years, 1881 to 1890, the annual average falls to only $27\frac{4}{10}$ per cent. of an increase over that for 1871 to 1880; yet a better condition is reached in the annual average of the last seven years, which is $37\frac{2}{10}$ per cent. greater than that for the period 1881 to 1890. The increase in the average cargo and the marked decrease in the average number of vessels are suggestive. The average cargo for the last seven years is $77\frac{4}{10}$ per cent. greater than that for the ten years ending in 1890, and the decade 1881–1890 was itself $24\frac{5}{10}$ per cent. greater than the average cargo for the ten years 1871 to 1880, which surpassed the average cargo for the period 1862 to 1870 by 32 per cent. The average number of vessels gradually decreased to the period ending 1890, when it was $2\frac{3}{10}$ per cent. over the average number for period 1871 to 1880; but in the last seven years the average number fell 5,005 vessels per year, or $37\frac{6}{10}$ per cent. less than the average number for the ten years 1881 to 1890.

The greatest number of vessels that entered the port of Chicago in any one year was in 1869, when it was 27,602, carrying 6,273,346 tons; and the least number was in 1862, when it was 14,687, carrying 3,847,246 tons.

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MOVEMENT OF VESSELS AND OPERATIONS OF BRIDGES FROM APRIL 1ST TO DECEMBER 15TH, 1897.—DAY AND NIGHT REPORTS.

BRIDGES.	NUMBER.				AVERAGE.					PERCENTAGE OF TIME.	
	Days of Service.	Hours Open.	Vessels Passed.	Swings of Bridges.	No. of Vessels per Day.	No. of Swings per Day.	Time Open per Swing.	Time Open per Hour.	Time Open per Day.	Bridge Closed.	Bridge Open.
		h. m.					m. s.	m. s.	m. s.		
Rush street..	259	452.18	12,770	10,164	49.30	39.24	2.67	4.86	104.75	92.73	7.27
State street..	259	388.12	11,378	9,052	43.92	34.94	2.57	3.74	89.91	93.76	6.24
Dearborn st..	259	368.19	10,783	8,741	41.63	33.74	2.52	3.55	85.29	94.08	5.92
Wells street..	259	353.70	9,994	8,160	38.58	31.50	2.60	3.41	81.93	94.31	5.69
Lake street..	259	295.50	7,660	6,318	29.57	24.39	2.80	2.85	68.45	95.25	4.75
Jackson street	229	268.27	7,526	5,401	32.86	23.58	2.98	2.98	70.28	95.12	4.88
Harrison st..	259	319.17	7,531	6,187	29.07	23.88	3.09	3.08	73.96	94.87	5.13
12th street...	259	311.55	7,046	5,917	27.20	22.84	3.15	3.00	72.17	94.99	5.01
18th street...	259	269.44	6,181	5,075	23.86	19.59	3.18	2.60	62.41	95.67	4.33
22nd street ..	259	338.56	5,831	4,872	22.51	18.81	4.16	3.26	78.43	94.56	5.44
Kinzie street.	214	307.15	7,368	5,035	34.43	23.52	3.76	3.49	86.11	94.02	5.98

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YEAR 1897—DETAILS OF VESSEL MOVEMENTS PASSING BRIDGES BY MONTHS.

MONTHS.	Rush St.			State St.			Dearborn St.			Wells St.			Lake St.			Jackson St.			Harrison St.			12th St.			18th St.			22nd St.			Kinzie St.		
	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No Swings	Minutes Open.	No. Vessels.	No Swings.	Minutes Open.	No. Vessels.	No. Swings.	Minutes Open.	No. Vessels.	No Swings.	Minutes Open
April	596	509	1394	594	525	1223	594	525	1223	594	525	1223	352	318	993	352	318	993	345	310	989	290	279	813	454	267	760	292	242	977	412	370	1582
May	1519	1189	2901	1477	1175	2957	1472	1176	2781	1428	1130	3132	973	780	2171	973	780	2171	925	728	1899	925	728	1899	778	688	1973	809	696	2683	800	622	2626
June.....	1756	1405	3405	1479	1192	2750	1450	1204	2699	1316	1058	2715	1031	842	2365	1028	840	2338	1015	844	2250	1015	844	2250	760	659	1959	723	619	2315	....	....	....
July.....	2029	1618	4389	1960	1161	2840	1509	1094	2642	1292	1027	2588	969	803	2073	955	790	2073	955	790	2335	751	636	2435	751	636	2136	712	577	2482	1189	864	3439
August....	1965	1502	4606	1461	1207	3251	1479	1147	3105	1393	1162	2854	1071	884	2343	1089	898	2635	1085	901	2786	1009	879	2719	880	641	2382	840	696	2659	1058	820	2313
September.	1801	1389	3575	1462	1246	3277	1453	1230	2984	1433	1142	2961	1145	931	2747	....	....	....	1132	931	3163	1039	885	3074	904	758	2266	840	709	2944	1037	758	2769
October...	1542	1225	3202	1467	1205	3334	1405	1151	3085	1282	1032	2802	1036	835	2408	1007	859	2703	1027	820	2816	1019	823	2654	877	741	2367	868	699	3302	1021	828	3050
November.	1182	986	2672	1127	1003	2687	1101	957	2680	966	816	2218	837	703	1949	812	715	2174	816	668	2217	790	656	2200	621	542	1807	606	514	2442	970	773	2712
December.	380	341	994	371	338	973	320	257	918	290	268	694	246	222	701	226	201	652	231	195	702	208	187	671	156	143	534	141	120	532	....	....	....

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The preceding tables of the movement of vessels in the Chicago river are compiled from the records of the Vessel Dispatcher's Office, and show that during 1897 $84\frac{9}{10}$ per cent of the total number of vessels in the trade of the City used the Chicago river, the Calumet river having $15\frac{1}{10}$ per cent. Of the vessels that used the Chicago river $15\frac{9}{10}$ per cent stopped east of Rush street bridge; between Rush and Wells streets $18\frac{8}{10}$ of our Chicago river trade stopped, only $65\frac{9}{10}$ per cent of it going west of Wells street bridge. Of this trade that passed west of Wells street bridge 51 per cent passed Lake street going down the south branch, 49 per cent going up the north branch beyond Kinzie street bridge. There is also an internal movement of vessels going north and south from branch to branch of the Chicago River, 2,468 vessels passing north from Lake street and 2,566 vessels going south from Kinzie street without either going east of Wells street bridge. Of the total south branch trade 8 per cent. stops between Lake and Twelfth, and 16 per cent. stops between Twelfth and Twenty-second streets, and the remaining 76 per cent. of our south branch trade passes south beyond Twenty-second street bridge.

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Table showing Precipitation and Mean Temperature and Mean Barometric Pressure in inches, and degrees Fahr., over the basin of upper lakes, and Mean Water in Lake Michigan in inches, by years, from 1871 to 1897, both inclusive, with the annual increase or decrease.

Year	BASIN OF UPPER LAKES.									LAKE MICHIGAN		
	Precipitation.	Difference with Preceding Year.		Mean Temp.	Difference with Preceding Year.		Pressure.	Difference with Preceding Year		Levels of Mean Water	Difference with Preceding Year.	
	Inches	Inc.	Dec.	Deg's.	Inc.	Dec.	Inches	Inc.	Dec.	Inches	Inc.	Dec.
1871	30.75	.....	.....	47.2	.....	.....	29.26	.....	.....	21.24	.....	.....
1872	29.59	.....	1.16	44.2	.....	3.0	29.26	0.00	0.00	9.62	.....	11.62
1873	32.49	2.90	.....	44.3	0.1	.....	29.25	.....	.01	16.80	7.18	.....
1874	29.56	.....	2.93	46.3	2.0	.....	29.31	.06	.....	20.04	3.24	.....
1875	33.06	3.50	.....	42.0	.....	4.3	29.26	.....	.05	17.40	.....	2.64
1876	28.93	.....	4.13	45.1	3.1	.....	29.25	.....	.01	30.72	13.32	.....
1877	36.23	7.30	.....	47.5	2.4	.....	29.28	.03	.....	27.72	.....	3.00
1878	38.35	2.12	.....	49.2	1.7	.....	29.22	.....	.06	24.00	.....	3.72
1879	35.51	.....	2.84	46.5	.....	2.7	29.30	.08	.....	12.72	.....	11.28
1880	38.36	2.85	.....	47.0	0.5	.....	29.28	.....	.02	13.92	1.20	.....
1881	42.42	4.06	.....	47.1	0.1	.....	29 29	.01	.....	15.12	1.20	.....
1882	37.28	.....	5.14	48.2	1.1	.....	29.29	.00	.00	24.00	8.88	.....
1883	32.66	.....	4.62	44.4	.....	3.8	29.28	.....	.01	25.20	1.20	.....
1884	34.31	1.65	.....	46.2	1.8	.....	29.28	.00	.00	28.88	1.68	.....
1885	32.99	.....	1.32	48.8	.....	2 4	29.26	.....	.02	28.56	1.68	.....
1886	30.56	.....	2.43	45.8	2.0	.....	29.28	.02	.....	31.68	3.12	.....
1887	29.63	.....	0.93	45.5	.....	0.3	29.29	.01	.....	23.52	.....	8.16
1888	27.57	.....	2.06	43.8	.....	1.7	29.31	.02	.....	15.60	.....	7.92
1889	28.65	1.08	.....	45.9	2.1	.....	29.29	.....	.03	9.24	.....	6.36
1890	34.58	5.93	.....	46.0	0.1	.....	29.30	.01	.....	7.56	.....	1.68
1891	29.62	.....	4.96	46.4	0.4	.....	29.30	.00	.0 0	0.60	.....	6.96
1892	34.15	4.53	.....	44.7	.....	1.7	29.31	.01	.....	—2.04	.....	2.64
1893	31.46	.....	2.69	43.8	.....	0.9	29.26	.....	.05	—2.35	.....	0.31
1894	29.51	.....	1.95	46.9	3.1	.....	29.28	.02	.....	6.00	8.35	.....
1895	26.03	.....	3.48	44.9	.....	2.0	29.29	.01	.....	—5.88	0.00	11.88
1896	31.59	5.56	.....	46.1	1.2	.....	29.30	.01	.....	—6.96	0.00	1.08
1897	30.36	.....	1.23	45.9	.....	0.2	29.31	.01	.....	+3.96	10.62	.....

BY LAKE PERIODS.

Year	BASIN OF UPPER LAKES.									LAKE MICHIGAN.			ANNUAL.
	Precipitation.	Difference with Preced'g Year.		Mean Temp.	Difference with Preced'g Year.		Pressure	Difference with Preced'g Year.		Levels of Mean Water.	Difference with Preceding Year.		
	Inches	Inc.	Dec.	Deg's.	Inc.	Dec.	Inches.	Inc	Dec	Inches	Inc.	Dec.	
1871	32.72	....	....	45.8	....	....	29.26	...	...	20.03	..	.....	Means 1871-1879
to	35.71	2.99	....	46.1	0.3	....	29 28	02	...	23.91	3.88	.....	" 1880-1886
1879	30.81	....	4.90	46.6	0.5	....	29.29	.01	..	7.45	....	16.46	" 1887-1893
	29.37	....	1.44	45.9	...	0.7	29.29	.00	.00	—0.72	....	8.17	" 1894-1897
	32.47	..	...	45.7	....	...	29 28	....	....	14.70	....	....	" 27 years.

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The following sections of the Act of Congress making appropriations for rivers and harbors has been issued by the United States Engineer in charge of this district:

1. Concerning Bridges that Form Obstructions to Navigation:

* * * * * * *

SEC. 4. That section nine of the river and harbor act of August eleventh, eighteen hundred and eighty-eight, be amended and re-enacted so as to read as follows:

That whenever the Secretary of War shall have good reason to believe that any railroad or other bridge now constructed, or which may hereafter be constructed over any of the navigable waterways of the United States is an unreasonable obstruction to the free navigation of such waters on account of insufficient height, width of span, or otherwise, or where there is difficulty in passing the draw opening or the draw-span of such bridge by rafts, steamboats, or other water craft, it shall be the duty of the said Secretary, first giving the parties reasonable opportunity to be heard, to give notice to the persons or corporations owning or controlling such bridge so to alter the same as to render navigation through or under it reasonably free, easy, and unobstructed; and in giving such notice he shall specify the changes required to be made, and shall prescribe in each case a reasonable time in which to make them. If at the end of such time the alteration has not been made, the Secretary of War shall forthwith notify the United States District Attorney for the district in which such bridge is situated, to the end that the criminal proceedings mentioned in the succeeding section may be taken.

2. Penalty for Violation of the Preceding Section.

SEC. 5. That section ten of the river and harbor act of August eleven, eighteen hundred and eighty-eight, be amended and re-enacted so as to read as follows:

That if the persons, corporation, or association owning or controlling any railroad or other bridge shall, after receiving notice to that effect as hereinbefore required from the Secretary of War and within the time prescribed by him, willfully fail or refuse to remove the same, or to comply with the lawful order of the Secretary of War in the premises, such persons, corporation, or association shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by a fine not exceeding five thousand dollars, and every month such persons, corporation, or association shall remain in default in respect to the removal or alteration of such bridge shall be deemed a new offence, and subject the persons, corporation, or association so offending to the penalties above prescribed.

3. Unlawful to Dump Material into Navigable Waters, except as provided.

SEC. 6. That it shall not be lawful to cast, throw, empty, or unlade, or cause, suffer, or procure to be cast, thrown, emptied, or unladen, either from or out of any ship, vessel, lighter, barge, boat, or other craft, or from the shore, pier, wharf, furnace, manufacturing establishments, or mills of any kind whatever, any ballast, stone, slate, gravel, earth, rubbish, wreck, filth, slabs, edgings, sawdust, slag, cinders, ashes, refuse, or other waste of any kind, into

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any port, road, roadstead, harbor, haven, navigable river, or navigable waters of the United States which shall tend to impede or obstruct navigation, or to deposit or place, or cause, suffer, or procure to be deposited or placed, any ballast, stone, slate, gravel, earth, rubbish, wreck, filth, slabs, edgings, sawdust, or other waste in any place or situation on the bank of any navigable waters where the same shall be liable to be washed into such navigable waters, either by ordinary or high tides, or by storms or floods, or otherwise, whereby navigation shall or may be impeded or obstructed:

PROVIDED, That nothing herein contained shall extend or be construed to extend to the casting out, unlading or throwing out of any ship or vessel, lighter, barge, boat or other craft, any stones, rocks, bricks, lime or other materials used, or to be used, in or toward the building, repairing or keeping in repair any quay, pier, wharf, weir, bridge, building, or other work lawfully erected or to be erected on the banks or sides of any port, harbor, haven, channel, or navigable river, or to the casting out, unlading or depositing of any material excavated for the improvement of navigable waters, into such places and in such manner as may be deemed by the United States officer supervising said improvement most judicious and practicable and for the best interests of such improvements, or to prevent the depositing of any substance above mentioned under a permit from the Secretary of War, which he is hereby authorized to grant, in any place designated by him where navigation will not be obstructed thereby.

4. Authority of Secretary of War required for the construction of any Pier, Wharf, etc., or of any Bridge, and for the alteration of any Navigable Channel, except as provided.

SEC. 7. That it shall not be lawful to build any wharf, pier, dolphin boom, dam, weir, breakwater, bulkhead, jetty or structure of any kind outside established harbor lines, or in any navigable waters of the United States where no harbor lines are or may be established, without the permission of the Secretary of War, in any port, roadstead, haven, harbor, navigable river, or other waters of the United States, in such manner as shall obstruct or impair navigation, commerce or anchorage of said waters, and it shall not be lawful hereafter to commence the construction of any bridge, bridge-draw, bridge-piers and abutments, causeway or other works over or in any port, road, roadstead, haven, harbor, navigable river, or navigable waters of the United States, under any act of the legislative assembly of any State, until the location and plan of such bridge or other works have been submitted to and approved by the Secretary of War, or to excavate or fill, or in any manner to alter or modify the course, location, condition, or capacity of the channel of said navigable water of the United States, unless approved and authorized by the Secretary of War.

PROVIDED, That this section shall not apply to any bridge, bridge-draw, bridge piers and abutments, the construction of which has been heretofore duly authorized by law, or be so construed as to authorize the construction of any bridge, drawbridge, bridge piers and abutments, or other works, under an act of the legislature of any State, over or in any stream, port, roadstead, haven or harbor, or other navigable water not wholly within the limits of such State.

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5. Concerning Wrecks and other Obstructions to Navigation.

SEC. 8. That all wrecks of vessels and other obstructions to the navigation of any port, roadstead, harbor, or navigable river, or other navigable waters of the United States, which may have been permitted by the owners thereof or the parties by whom they were caused to remain to the injury of commerce and navigation for a longer period than two months, shall be subject to be broken up and removed by the Secretary of War, without liability for any damage to the owners of the same.

6. Prohibiting the occupation of U. S. Piers, etc., by private parties or corporations.

SEC. 9. That it shall not be lawful for any person or persons to take possession of or make use for any exclusive purpose, or build upon, alter, deface, destroy, injure, obstruct, or in any other manner impair the usefulness of any sea-wall, bulkhead, jetty, dike, levee, wharf, pier, or other work built by the United States, in whole or in part, for the preservation and improvement of any of its navigable waters, or to prevent floods, or as boundary marks, tide-gauges, surveying stations, buoys, or other established marks, nor remove for ballast or other purposes any stone or other material composing such works.

7. Penalty for creating obstructions in navigable waters, or for violating the provisions of the four preceding sections (6, 7, 8 and 9) of this Act.

SEC. 10. That the creation of any obstructions, not affirmatively authorized by law, to the navigable capacity of any waters, in respect of which the United States has jurisdiction, is hereby prohibited. The continuance of any such obstruction, except bridges, piers, docks and wharves, and similar structures erected for business purposes, whether heretofore or hereafter created, shall constitute an offense, and each week's continuance of any such obstruction shall be deemed a separate offense. Every person and every corporation which shall be guilty of creating or continuing any such unlawful obstruction in this act mentioned, or who shall violate the provisions of the last four preceding sections of this act, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not exceeding five thousand dollars, or by imprisonment (in the case of a natural person) not exceeding one year, or by both such punishments, in the discretion of the court, the creating or continuing of any unlawful obstruction in this act mentioned may be prevented and such obstruction may be caused to be removed by the injunction of any circuit court exercising jurisdiction in any district in which such obstruction may be threatened or may exist; and proper proceedings in equity to this end may be instituted under the direction of the Attorney-General of the United States.

8. Duties of the Officers and Agents in regard to the enforcement of the provisions of this Act.

SEC. 11. That it shall be the duty of officers and agents having the supervision, on the part of the United States, of the works in progress for the preservation and improvement of said navigable waters, and, in their absence, of the United States Collectors of Customs and other revenue officers, to enforce

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the provisions of this act by giving information to the District Attorney of the United States for the district in which any violation of any provision of this act shall have been committed.

PROVIDED, That the provisions of this act shall not apply to Torch Lake, Houghton County, Michigan.

9. Concerning the establishment of Harbor lines, and penalty for the violation of the provisions of this section.

SEC. 12. That section twelve of the river and harbor act of August eleventh, eighteen hundred and eighty-eight, be amended and re-enacted so as to read as follows:

Where it is made manifest to the Secretary of War that the establishment of harbor lines is essential to the preservation and protection of harbors, he may, and is hereby authorized, to cause such lines to be established, beyond which no piers, wharves, bulkheads or other works shall be extended or deposits made, except under such regulations as may be prescribed from time to time by him; and any person who shall willfully violate the provisions of this section or any rule or regulation made by the Secretary of War in pursuance of this section, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by a fine not exceeding one thousand dollars, or imprisonment not exceeding one year, at the discretion of the court, for each offense.

* * * * * * *

WIDENING OF THE CHICAGO RIVER

has been decided upon by the sanitary district of Chicago during the year, and the following tracts of land on the west side of the south branch have been purchased for that purpose, or negotiations for their purchase are pending. Widening No. 14, being 5,505 square feet, of lots 11 and 12 of the resubdivision of lots 172 to 174 and lots 11 to 19 in Green's south branch addition by Loomis street and west of Deering street bridge, Sec. 29, T. 39, R. 14 E.

No. 13.—1,352 square feet of lot 15 of same subdivision, being east of Deering street bridge.

No. 11.—3,857 square feet at the south ends of lots 21, 22 and 23 of Green's south branch addition west of Throop or Main street bridge.

No. 10.—9,294 square feet east of Throop street, south of lots 24 and 25 of Green's south branch addition and west side of Throop slip or canal.

No. 9a.—2,717 square feet north side of south branch next east from Dupont slip, being south part of lots 1 and 2 of Morris & Johnson's subdivision of eight acres in N. fraction of N. W. ¼ Sec. 28, T. 39 N., R. 14 E. of 3d P. M.

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No. 9.—4,631 square feet at the south part of N. K. Fairbank's property, lying between west line of lot 10 of Edward McConnell's subdivision of part of N. fraction of N. W. ¼ Sec. 28, T. 39 N., R. 14 E. and the E. line of lot 2 of Morris & Johnson's subdivision of eight acres in N. fraction of N. W. ¼ Sec. 28, T. 39 N., R. 14 E. of 3d P. M.

No. 8.—Being 15,965 square feet at the south ends of lots 9 and 10 of Edward McConnell's subdivision of part of the N. fraction of N. W. ¼ of Sec. 28, T. 39 N., R. 14 E. of 3d P. M., being across the south branch from the National elevator.

Widening No. 7.—Being 176 square feet of lot 4 (lying between W. line of Canal street and the N. E. line of old Todd street) of block 33, of Canal Trustees' subdivision of W. ½ Sec. 21, T. 39 N., R. 14 E. of 3d P. M.

Widening No. 6.—Being 2,775 square feet E. of Canal street and at the north end of lot 4, of said block 33, of Canal Trustees, said subdivision in W. ½ Sec. 21.

Widening No. 5.—Being 3,075 square feet at the north end of lot 3, of block 33, of Canal Trustees, said subdivision as in widening No. 6.

Widening No. 4.—Being 3,624 square feet east end of lot 2, block 14, of Canal Trustees' subdivision of W. ½ Sec. 21, T. 39 N., R. 14 E. of 3d P. M.

Widening No. 3.—Being 5,458 square feet, lot 1, of said block 14 as shown for widening No. 4.

Widening No. 2.—Being 1,007 square feet, at east end of lot 5, of block of the Canal Trustees' subdivision, as in widening No. 4.

Widening No. 1.—Being 6,150 square feet, being about 55 feet N. of Maxwell street and as far as the dock angle next south from the City elevator on w. side of south branch.

The United States Engineer contemplates widening the Chicago river at the following points and thus giving facilities for the largest vessel to pass through the north and south branches when these widenings are made:

Tract 5.—Strip 469 feet long by about 30 feet wide, from the point on the south side of the south branch opposite Throop slip or canal.

Tract 3.—Strip 440 feet and about 70 feet wide, at bend on the north side of the south branch by Fisk street, about 100 feet west of Mason's canal or slip.

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Tract 7.—Piece 180 feet long by about 50 feet wide, at point about 50 feet north from north line of Hickory street opposite to the inlet to the Bridgeport pumping works.

Tract 6.—Piece at the end of Piper's Point, foot of Levee street, about 152 feet across and 100 feet wide.

Tract 8b.—Strip 441 feet long and about 20 feet wide on the west side of the east fork of the south branch, by the works of the Illinois Steel Company.

Tract 8a.—Strip 428 feet long and about 40 feet wide, at the point on west side of the east fork of south branch opposite Thirty-first street produced to west dock.

Tract 8.—Piece 180 feet long and at the point 30 feet wide, on east side of east fork of south branch, by north-west corner of the glue works, south-west from Pitney court.

Tract 10.—Piece 172 feet long by an average of about 50 feet wide, at the east draw of the Erie street bridge, next south from south line of Erie street.

Tract 11.—Piece about 40 feet wide and 206 feet long, east side of the north branch, next south from Webster avenue.

Tract 12.—Strip 176 feet long and 30 feet wide at its northern part, on the west side of the north branch, next south from Webster avenue.

Tract 14.—Strip about 350 feet, being at each side of the dock angle next west from the C. & N.-W. R. R. bridge, by the Anderson Press Brick Company works, south side north branch, and about 30 feet wide at the dock angle.

Tract 15.—Piece at the southwest corner of the City property, by Fullerton avenue, being 120 feet long and 30 feet wide at the point.

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PRECIPITATION AT CHICAGO, ILL., IN INCHES AND DECIMALS BY MONTHS, SEASONS AND YEARS, FROM 1843 TO 1897, INCLUSIVE.

Year.	MONTHLY TOTALS.												TOTALS, SEASONS AND YEARS.					Year.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Spring.	Summer.	Autumn.	Winter.	Annual.	
1843	2.0	1.9	3.0	4.5	4.0	4.6	1.4	2.4	3.0	1.2	5.1	2.4	11.5	8 4	9 3	.....	35.50	1843
1844	2.8	1 3	1.76	2.76	6.0	5.5	5 0	4.2	0.8	1.6	0.7	0.7	10 52	14.7	3.1	6 5	33 12	1844
1845	2 0	0.5	2.2	6 5	2.0	3.8	3.5	1.2	4.4	1.4	3 3	1.5	10.7	8.5	9.1	3 2	32.30	1845
1846	4.9	1.8	2.6	7.8	2.4	4.3	2 9	1.0	5.0	0.8	1.5	5.0	12.8	8.2	7.3	8.2	40.00	1846
1847	2.3	3.5	1.5	2.1	3.3	1.5	2.8	2.0	3.2	4.6	4.8	1.2	6.9	6.3	12.6	10.8	32.80	1847
1848	1.6	2.4	4 5	3.3	3.8	4.4	3.4	5.1	2.2	3.2	2.1	8.4	11.6	12.9	7.5	5.2	44.40	1848
1849	5.5	1.0	4.7	1.8	3.8	3.6	2.3	3.5	2.6	2.8	1.4	1.2	10.3	9.4	6.8	14.9	34.20	1849
1850	2.1	0.7	2.0	3.8	1.9	3.1	2.1	6.4	1.4	2.0	3.2	1.7	7.7	11.6	7.6	4.0	30.40	1850
1851	1.5	3.8	0.8	4.2	6.7	5.3	3.8	3.1	3.2	2.3	2.3	1.6	11.7	12.2	7.8	7.0	38.60	1851
1852	2.0	1.2	5 5	4 8	2.4	2.5	3.4	0.6	2.3	6.8	4.0	3.3	12.7	6.5	13.1	4.8	38.80	1852
1853	1.4	2.2	1.8	2.8	4.4	4.9	6.1	2.2	4.2	2.0	2.1	2.3	9.0	13.2	9.3	6.9	36.40	1853
1854	1.3	1.9	2 1	2.1	3.1	2 6	3 0	0.9	1.6	3.6	1 0	1.4	7.3	6.5	6.2	5.5	24.60	1854
1855	8.0	0.6	2.6	1.4	2.5	3.7	5.8	3.2	2.3	2.0	2.2	2.0	6.5	12.7	6.5	10.0	36.30	1855
1856	0.9	1.8	0.6	2.6	4.8	2.5	2.1	1.3	2.5	2.1	3.98	3.86	8.0	6.9	8.5[5]	4.7	29.04	1856
1857	1.09	5.43	2.5	2.19	6.33	4.14	3.0	5.0	2.2	4.0	2.7	1.2	11.02	12.14	8.9	10.38	39.83	1857
1858	1.3	1.4	3.0	3.1	7.8	6.3	5.9	3.2	4.0	4.6	4.5	2 0	13.9	15.4	13 1	3.9	47.10	1858
1859	1.4	1.8	5.2	3.4	3.6	1.7	0.9	0.4	2.2	4.1	2.8	1.8	12.2	3.0	9.1	5.2	29.30	1859
1860	1.6	1 6	1.0	2.8	4.6	3.5	5.3	2.6	2.8	4.1	2.3	4.2	8.4	11.4	9.2	5.0	36.40	1860
1861	1.4	3.0	3.4	4.7	3.7	2.1	4.3	2.4	3.4	7.5	1.5	1.9	11.8	8.8	12.4	8.6	39.30	1861
1862	4.0	0.7	2.0	5.2	4.3	2.9	6.7	3.6	5.6	2.92	1.2	1.3	11.5	13.2	9.7[2]	6 6	40.42	1862
1863	2.8	2.6	2.1	2.1	5.1	1.3	2 3	4.2	1.6	4.0	1.9	3.6	9.3	7.8	7.5	6.7	33.60	1863
1864	1.6	0.4	2.1	3.2	1.9	2.1	6.4	1.1	2.1	1.9	3.1	2.5	7.3	9.6	7.1	5.6	28.40	1864
1865	0.4	3.1	3.1	3.8	1.5	5.1	6.1	7.2	4 8	4 0	0.5	0.6	8.4	18.5	9.3	6.0	40.20	1865
1866	2.8	1.6	2.2	2.8	2.0	4.4	4.7	4.2	4.6	2.8	0 8	3.4	7.0	13.3	8.2	5.0	36.30	1866
1867	1.93	2.22	1.58	1.70	4.42	1.86	1.52	2.33	0.57	1 28	1.89	1.11	7.70	5.71	3 7[4]	7.55	22.41	1867
1868	1.28	0.92	5.24	3.00	3.74	3.11	2.87	3.55	7.08	1.69	2.60	1.40	11.98	9.45	11.3[7]	3.31	36.48	1868
1869	1.97	2.23	1.33	4.30	5.69	5.03	3.26	1 32	0.89	1.10	2.42	2.03	11.22	10.61	4.4[1]	5.60	31.57	1869
1870	1.95	0.86	1.81	1.15	0.80	1.70	3.71	2.07	2.82	2.43	1.16	2 46	3.76	7.48	6.4[1]	4.84	22.92	1870
1871	4.13	1.45	2 66	3.79	3.90	5.56	2.52	2.01	0.74	1 88	3.62	3.44	10.35	10.10	12.2[4]	8.04	35.61	1871
1872	0.68	0.84	3.79	3.03	3.24	3.45	3.09	2.59	6.43	0.65	1.06	0.22	10.06	9.13	8.1[4]	5.14	29.07	1872
1873	2.56	0.47	0 89	6.22	7.20	1.44	4.04	1.58	3.53	2.43	1.61	4.44	14 31	7.06	7.5[7]	3.25	36.41	1873
1874	3.47	1.51	2.15	2.67	2.08	3.25	0.58	3.15	3.76	2.55	2.83	0.63	6.90	6.98	9.14	9.42	28.63	1874
1875	0.96	1.99	1.43	2.32	3.64	5.17	7.18	3.28	4.39	4.32	0.75	2.62	7.39	15 60	9.46	3.58	38.06	1875
1876	3.22	3 90	4.04	2.07	1.85	5.96	3.11	3.66	3.74	1.20	3.25	0.48	7.96	12.73	8.29	9.74	36.48	1876
1877	1.91	0.06	5.37	2.42	1.81	6.04	2.98	3.06	2.02	6.15	6 08	2.75	9.60	12.08	14.25	2.45	41.01	1877
1878	1.31	2.12	4 39	5.57	5.22	3.02	6.09	3.66	1.99	5.17	0.83	2.58	15.18	12.77	7.99	6.18	41.95	1878
1879	0.54	1.47	2.37	1.93	3.89	3.18	5.58	0.45	1.18	2.72	4 93	2.47	8.19	9.21	8.83	4.59	30.71	1879
1880	3.53	2.91	2.25	5.20	4.97	3.50	3.07	4.47	2.25	3.19	0.87	1.11	12.42	10.04	6.31	8.91	37.32	1880
1881	0.87	5.98	2.99	1.84	1.85	5.93	4.31	0.54	4.34	6.89	5.97	2.67	6.68	10 78	17.21	8.06	44.18	1881
1882	1.55	2.24	3 43	6.72	5.52	5.71	3.43	4.96	0.91	3.40	1.48	1.99	15.67	14.00	5.97	6.46	41.34	1882
1883	1.74	4.74	0.42	3.72	7.32	5.61	5.53	1.21	1 36	1.36	5.26	1.59	11.46	12.35	13.98	8.47	45.86	1883
1884	1 39	3.27	5.16	3.05	1.53	2.11	3.71	2.50	2.29	3.59	1.80	4.21	9 74	8.32	7.68	6.25	34.61	1884
1885	3.18	2.01	0.57	4.00	3.17	5.20	2.44	11.28	2.97	3.87	2.33	3.35	7.74	18.92	9.17	9.40	44.37	1885
1886	3 56	1.51	1.79	1.29	1.00	0.94	1.53	3.38	6.93	1.42	1.66	1 76	4.08	5.85	10.01	8 42	26.77	1886
1887	3.13	5.10	0.89	0.46	1.38	1 63	1.05	3.35	4.03	2.03	2.41	3.67	2.63	6.03	4.47	9.99	29.13	1887
1888	1.56	1.51	2.99	2.13	6 22	1.66	3.93	2.10	0 98	2.95	2.89	1.94	11.34	7.69	6.72	6.74	30.86	1888
1889	1.64	1.31	1.43	2.35	5 38	2.93	9.56	0.39	2.75	1.82	3.49	1.90	9.18	12.88	8.06	4.09	34.95	1889
1890	2.98	2.42	2.10	3.23	5.13	3.25	2.57	2 58	1 39	4.20	1.59	1.25	10.46	8.40	7.18	7.30	32.69	1890
1891	1.99	1.95	2.13	3.14	2.09	2.42	2.47	4.52	0.32	0.36	2.83	1.32	7.36	9.41	4 51	5.19	26.54	1891
1892	1 99	1.57	2.21	2.17	6.77	10.58	2 23	1.85	1.34	1.54	2.68	1.63	11.15	14.66	5.56	4.88	36.56	1892
1893	2.08	2.44	1 69	4.16	1.93	3.59	3.08	0.18	1.98	1.75	2.45	2.14	7.78	6.85	6 18	6.15	27.47	1893
1894	1.55	2.15	2.66	2.65	3.35	1.96	0.60	0.60	8.28	0.84	1.18	1.66	8.66	3.16	10.30	5.84	27.46	1894
1895	2 15	1 60	1.32	0.86	1.99	1.79	2.42	6.49	0.89	0.51	5.60	6.76	4.17	10.70	7.00	5.41	32.38	1895
1896	1.12	3.48	1.26	2.79	4 16	2.83	3.61	3.52	6 70	1.36	2.16	0.16	8.21	9.96	10.22	11.36	33.14	1896
1897	4.53	2.22	3.56	2.23	0 84	3 60	1.47	1.70	0.84	0.18	3 06	1.62	6.63	6.77	4.08	6.91	25.85	1897

The City is indebted to the courtesy of Professor Garriott and other officers of the United States Weather Bureau for the tables of daily temperature, daily precipitation and daily barometric pressure at Chicago for 1897, as well as to the several forecast officers at selected stations in basin of the upper lakes for the information on which the table for that area was compiled.

The accompanying diagram represents all the important facts in regard to Chicago harbor for the period from 1871 to 1897, inclusive.

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MAXIMUM DAILY PRESSURE, 1897.

DATE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	1.23	1.49	1.45	1.44	1.09	1.05	1.04	1.20	1.18	1.43	1.04	1.42
2	1.21	1.24	1.34	1.36	.98	1.17	.94	1.17	1.35	1.49	1.09	1.54
3	1.04	1.29	1.43	1.38	1.13	1.03	.97	1.25	1.45	1.54	1.25	1.51
4	.88	1.31	1.47	1.05	1.29	1.07	1.03	1.36	1.42	1 48	1.19	1.19
5	1.06	1.20	1.21	.89	1.31	1.07	1.20	1.45	1.36	1.20	1.09	1.14
6	1.25	.98	1.66	1.16	1.28	1.12	1.25	1.44	1.40	1.25	1.36	1.11
7	1.29	1.17	1.63	1.25	1.29	1.26	1.23	1.30	1.39	1.28	1.27	1.20
8	1.46	1.30	1.33	1.22	1.30	1.32	1.20	1.15	1.28	1.20	.92	1.15
9	1.27	1.40	.97	1.17	1.14	1.30	1.12	1.10	1.27	1.40	1.02	1.09
10	1.21	1.38	1.19	1.21	1.07	1.25	1.04	1.05	1.32	1.29	1.00	1.05
11	1.21	1.29	1.16	1.43	1.00	1.13	1.06	1.10	1.35	.83	1.17	1.25
12	1.41	1.08	1.30	1.46	.91	1 13	1.05	1.20	1.26	1.31	1 41	1 14
13	1.23	1.10	1.38	1.25	.90	1.06	1.05	1.22	1.22	1.46	1.44	1.13
14	1.32	1.20	1.51	1.29	1.15	1.14	1.09	1.04	1.28	1.30	1.25	.91
15	1.32	1.12	1.67	1.15	1.31	1.11	1 15	.93	1.22	1.34	1.22	1.10
16	1.16	.94	1 74	1.21	1.42	1.00	1.20	1.12	1.37	1.49	1.67	1.44
17	.97	1.14	1.49	1.32	1.45	.99	1.28	1 15	1.50	1.59	1.68	1.57
18	1.45	1.39	1.03	1.20	1.45	1.20	1.32	1.13	1 30	1 46	1.62	1.71
19	1.48	1.51	.88	1.73	1.38	1.22	1.30	1.23	1.39	1.17	1.23	1.63
20	1.18	1.21	.90	1.82	1.10	1.28	1.18	1.31	1.54	1.06	.97	1.25
21	1.08	1.05	1.05	1.52	1.24	1.28	1 03	1.26	1.49	1.17	1.35	1.16
22	1.25	.97	1.15	1.20	1.13	1.05	1.00	1 17	1.24	1.31	1 38	1.05
23	1.35	1.34	1.12	1.18	.95	1 00	1.09	1.17	1.25	1.44	1.54	1.50
24	1.44	1.35	.90	1.17	1.35	1.10	1.09	1.03	1.27	1.33	1.47	1.60
25	1.43	1.38	.98	1.08	1.47	1.26	1.10	1 12	1.26	1.28	1.10	1.27
26	1.44	1.67	1.24	1.27	1.45	1.37	1.05	1.12	1.33	1.21	1.39	1.21
27	1.29	1.68	1.41	1.33	1.33	1.32	1.13	1.14	1.51	1.30	1.65	1.38
28	1.36	1.57	1.46	1.07	1.25	1.22	1 18	1.18	1.52	1.09	1.52	1.47
29	1.54	.....	1.29	1.08	1 19	1.12	1.24	1.20	1.44	1.17	1 57	1 90
30	1.68		1.29	1.12	1.06	1.14	1.20	1.30	1.46	1.01	1 55	1.04
31	1.67	.....	1.46	.....	1.14	.....	1.24	1.24	.....	.99	.....	1.35

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MINIMUM DAILY PRESSURE, 1897.

DATE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	1.17	1.22	1.19	1.24	99	1.16	.92	1.00	1.07	1.37	.94	1.01
2	1.03	1.20	.96	1.29	.87	.84	.87	1.05	1 20	1.39	.98	1.45
3	.78	1.22	.98	1.07	.92	.80	.89	1.12	1.34	1.48	1.09	1.20.
4	.76	1.19	.89	.75	1.14	1.01	97	1.24	1.30	1.21	.93	.81
5	.83	.82	.60	.70	1.22	.99	1.06	1.37	1.30	1.01	.75	.82
6	1.08	.75	1.26	90	1.19	.99	1.13	1.30	1.30	1.03	1 12	.80
7	1.23	1.00	1 35	1.14	1.21	1.12	1.17	1.13	1.27	1.14	.94	.90
8	1.30	1.11	.98	1.08	1.16	1.26	1 08	1.07	1.17	.97	.61	1.04
9	1.12	1 31	81	1.07	1.00	1.19	1.00	.96	1.21	1.22	.60	.99
10	1.06	1.29	1.00	1.14	1.01	1.08	.91	.97	1.25	.83	.61	.93
11	1.03	.89	.60	1.16	.86	1.02	.95	1.02	1.27	.55	.61	1.10
12	1.23	.83	.62	1.07	.85	.96	95	1.10	1.12	.67	1.20	1.08
13	1.05	.87	.83	.89	.85	.95	1.00	1.06	1.13	1.28	1.26	.83
14	1.11	1.03	.68	1.16	.83	1.06	.99	.89	1 20	1.19	.87	.75
15	1.14	.93	1.52	.92	1.16	.96	1.10	.83	1.10	1.16	.90	.86
16	.69	.64	1.50	.91	1.22	.87	1.10	.93	1.14	1.16	1.25	.85
17	.39	.68	99	1.20	1.35	.82	1.20	1.13	1.31	1.46	1.61	1.32
18	1.03	1.16	.90	.75	1 38	.96	1.24	1.05	.95	1.19	1.27	1.57
19	1.21	1.27	.34	1.03	1.10	1.05	1.19	1.09	1.00	1 01	.96	1.30
20	.86	.70	.38	1.52	.89	1 10	.91	1.24	1.40	.99	.82	1.04
21	.84	.86	.89	1.15	1.12	1.08	.90	1.14	1.24	1.02	.82	1.02
22	.70	.68	.89	1.10	.75	.86	.92	1.13	1.19	1.17	1.30	.98
23	1.23	.98	.62	1 09	.78	.85	1.02	1.05	1.20	1.32	1.38	1.01
24	1.29	1.04	60	1.02	.96	.94	1.03	.91	1.20	1.21	1.11	1.30
25	1.40	1.19	.89	1.02	1.36	1.09	.93	.98	1.16	1.15	.85	1.08
26	1.29	1.37	.99	.91	1.33	1.26	.92	.90	1.14	1.12	.74	1.11
27	1.13	1.49	1.25	1.07	1.16	1.23	1.05	.96	1.34	1.05	1.43	1.23
28	1.13	1.46	1 27	.87	1.12	1.11	1.12	1.09	1.39	1.00	1.27	1 25
29	1.36	.....	1.19	.91	.93	1.02	1.15	1.02	1.38	93	1.33	.75
30	1.54	.....	1.23	1.06	.87	1.08	1.11	1.20	1.37	.88	1.02	.86
31	1.50	.....	1.30	.....	1.06	.....	1.14	1.11	.....	.95	.....	1.02

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MEAN DAILY PRESSURE, 1897.

DATE.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	1.198	1.331	1.282	1.345	1.042	1.270	.980	1.079	1.131	1.398	.989	1.228
2	1.118	1.213	1.176	1.318	.909	.980	.945	1.104	1.310	1.450	1.013	1.499
3	.867	1.256	1.232	1.248	1.029	.922	.917	1.208	1.391	1.498	1.181	1.411
4	.816	1.255	1.265	.865	1.235	1.052	1.005	1.303	1.369	1.362	1.062	.958
5	.924	1.015	.828	.762	1.267	1.040	1.148	1.486	1.325	1.092	.874	.967
6	1.193	.822	1.546	1.070	1.282	1.079	1.234	1.376	1.348	1.147	1.280	.717
7	1.263	1.102	1.532	1.200	1.254	11.92	1.196	1.225	1.327	1.229	1.128	1.113
8	1.395	1.200	1.130	1.172	1.235	1.285	1.153	1.117	1.237	1.074	.820	1.062
9	1.178	1.338	.888	1.137	1.054	1.252	1.069	1.034	1.241	1.335	.857	1.046
10	1 145	1.330	1.122	1.175	1.038	1.170	.989	1.018	1.284	1.099	.868	.970
11	1.130	1.105	.942	1.286	.920	1.047	1.005	1.068	1.306	.654	.898	1.187
12	1.325	.916	.968	1.333	.877	1.064	1.008	1.169	1.191	1.009	1.343	1.115
13	1.113	1.004	1.201	1.032	.878	.990	1.011	1.147	1.177	1.345	1.379	1.025
14	1.236	1.142	1.133	1.233	1.019	1.099	1.032	.955	1.236	1.255	.978	.809
15	1.223	.989	1.568	1.056	1.245	1.050	1.122	.875	1.167	1.265	1.048	.978
16	1.028	.832	1.657	1.056	1.384	.950	1.172	1.044	1.204	1.306	1.511	1.227
17	.599	.900	1.195	1.242	1.400	.902	1.244	1 145	1.417	1.523	1.647	1.421
18	1.348	1.289	.972	.986	1.406	1.058	1 282	1.100	1.089	1.350	1.470	1.630
19	1.400	1.428	.532	1.492	1.277	1.082	1.261	1.173	1.200	1.073	1.084	1.521
20	.995	.885	.652	1 704	.988	1.206	1.071	1.275	1 497	1.030	.885	1.094
21	.964	.977	.964	1.331	1.177	1.201	.958	1.237	1.379	1.100	1.160	1 098
22	.941	.787	1.041	1.135	.942	.948	.955	1.152	1.221	1.185	1.342	1.018
23	1.292	1.142	.848	1.152	.828	.931	1.054	1.128	1.222	1.271	1.477	1.228
24	1.392	1.207	.788	1.106	1.205	1.049	1.046	.952	1.223	1.269	1.301	1.483
25	1.411	1.323	.941	1.048	1.421	1.198	1.042	1.068	1.206	1.200	.999	1.150
26	1.379	1.515	1.062	1.106	1 385	1.303	.973	1.022	1.209	1.158	1.006	1.168
27	1.192	1.598	1.364	1.224	1.261	1.277	1.090	1.081	1.458	1.138	1.555	1.313
28	1.244	1.521	1.375	.953	1.209	1.182	1.146	1.180	1.462	1.043	1 375	1.392
29	1.461	.....	1.241	.989	1.073	1.060	1 190	1.073	1.404	1.070	1.510	.895
30	1.630	.....	1.259	1.090	.762	1.100	1.168	1.119	1 415	.950	1.319	.956
31	1.614	.....	1 272	.....	1.113	.....	1.189	1.192	.....	.951	...	1.214

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DAILY MAXIMUM TEMPERATURE, 1897.

Date.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	57	36	37	44	40	53	80	79	71	81	52	27
2	57	37	28	49	39	76	91	77	69	66	49	31
3	57	36	28	53	45	61	95	75	71	60	61	33
4	32	30	37	62	56	69	94	72	76	89	66	34
5	17	34	46	50	78	60	84	72	85	82	57	26
6	16	39	35	41	80	60	80	76	85	72	50	36
7	32	33	31	41	63	57	82	76	84	61	48	36
8	42	31	54	44	78	58	88	77	92	77	50	48
9	39	29	53	39	72	68	89	82	94	56	47	57
10	32	32	44	38	71	78	85	73	94	67	52	55
11	31	30	45	37	73	73	74	72	73	64	46	37
12	33	33	41	48	66	74	67	71	86	56	34	34
13	30	44	32	53	60	90	69	84	82	68	44	38
14	31	35	28	45	56	82	75	84	91	86	60	40
15	33	35	40	56	52	93	73	74	91	87	60	36
16	41	41	35	40	58	83	75	66	81	76	36	41
17	45	43	46	51	71	82	76	68	64	54	38	14
18	28	37	50	67	80	67	76	75	76	60	44	8
19	35	36	53	44	81	80	76	62	66	67	52	24
20	36	43	45	45	80	67	81	66	54	56	66	31
21	33	35	43	70	50	64	88	69	68	54	56	23
22	35	35	38	75	74	77	83	74	67	54	38	12
23	8	29	36	65	69	86	75	70	67	58	27	9
24	2	39	33	71	53	73	76	74	68	63	39	18
25	—10	21	36	66	49	72	76	66	84	62	47	32
26	—3	17	36	61	56	62	75	87	79	60	52	25
27	1	22	36	63	67	64	73	80	63	60	28	24
28	10	27	45	78	64	80	75	90	64	60	35	26
29	10	....	58	47	67	89	80	85	77	52	23	42
30	24	.....	57	39	62	85	91	71	81	54	27	37
31	33	.....	48	.....	53	....	79	76	....	60	.....	29

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DAILY MINIMUM TEMPERATURE, 1897.

Date.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	43	25	27	37	33	44	68	64	65	64	49	16
2	47	31	24	37	34	49	74	70	64	61	41	14
3	32	28	18	38	38	51	76	70	66	57	36	27
4	15	27	19	42	42	48	78	66	62	60	44	22
5	10	28	35	40	49	44	69	68	64	61	39	19
6	11	32	22	33	47	47	73	69	71	51	30	21
7	16	30	21	34	42	47	74	67	68	55	40	20
8	28	27	31	36	53	52	76	69	74	52	45	31
9	30	23	36	34	61	52	79	66	73	45	40	40
10	23	26	28	32	55	60	74	63	70	51	37	36
11	23	28	34	32	57	59	63	62	67	54	31	31
12	18	26	21	36	53	63	59	61	70	47	24	29
13	22	30	21	41	47	63	56	60	72	49	32	32
14	28	26	17	39	42	64	60	64	72	64	39	34
15	28	28	19	40	45	73	65	62	74	69	36	31
16	30	28	22	33	48	64	68	57	64	54	26	10
17	28	27	34	31	52	59	67	59	54	47	27	3
18	11	26	34	40	55	54	69	54	48	49	30	—2
19	17	28	34	26	60	58	70	59	52	50	36	4
20	30	32	37	24	42	54	70	56	47	43	42	21
21	21	30	33	40	40	52	64	57	42	43	38	12
22	5	25	34	58	44	59	67	63	54	48	26	2
23	2	11	31	58	52	62	62	60	62	47	17	—1
24	—15	9	28	59	42	62	69	63	58	47	19	—1
25	—20	13	22	54	40	59	69	60	64	49	35	18
26	—16	1	23	41	42	58	67	59	61	53	26	17
27	—5	—6	26	40	53	57	64	63	54	53	14	15
28	—3	21	29	47	45	62	68	69	54	46	23	16
29	0	..	38	39	47	73	66	67	55	38	7	26
30	5	.....	42	36	45	72	68	62	66	39	10	29
31	14	.....	38	..	41	.....	73	63	.....	48	.....	17

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DAILY MEAN TEMPERATURE, 1897.

Date.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	50	30	32	40	36	48	74	72	68	72	50	22
2	52	34	26	43	36	62	82	74	66	64	45	22
3	44	32	23	46	42	56	86	72	68	63	48	30
4	24	28	28	52	49	58	86	69	69	73	55	28
5	14	31	40	45	64	52	76	70	74	72	48	22
6	14	36	28	37	64	54	76	72	78	62	40	28
7	24	32	26	38	52	52	78	72	76	58	44	28
8	35	29	42	40	66	55	82	73	83	64	48	40
9	34	26	44	36	66	60	84	74	84	50	44	48
10	28	29	36	35	63	69	80	68	82	59	44	46
11	27	29	40	34	65	66	68	67	70	59	38	34
12	26	30	31	42	60	68	63	66	78	52	29	32
13	26	37	26	47	54	76	62	72	77	58	38	35
14	30	30	22	42	49	73	68	74	82	75	50	37
15	30	32	30	48	48	83	69	68	82	78	48	34
16	36	34	28	36	53	74	72	62	72	65	31	26
17	36	35	40	41	62	70	72	64	59	50	32	8
18	20	32	42	54	68	60	72	64	62	54	37	3
19	26	32	44	35	70	69	73	60	59	58	44	14
20	33	38	41	34	61	60	76	61	50	50	54	26
21	27	32	38	55	45	58	76	63	55	48	47	18
22	20	30	36	66	59	68	75	68	60	51	32	7
23	—5	20	34	62	60	74	68	65	64	52	22	4
24	—6	24	30	65	48	68	72	68	63	55	29	8
25	—15	17	29	60	44	66	72	63	74	56	41	25
26	—10	9	30	51	49	60	71	73	70	56	39	21
27	—2	8	31	52	60	60	68	72	58	56	21	20
28	4	24	37	62	54	71	72	80	59	53	29	21
29	10	.....	48	43	57	81	73	76	66	45	15	34
30	14	.....	50	38	54	78	80	66	74	46	18	33
31	24	.....	43	.....	47	.....	76	70	.....	51	.....	23

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DAILY PRECIPITATION, 1897—INCHES AND HUNDRETHS.

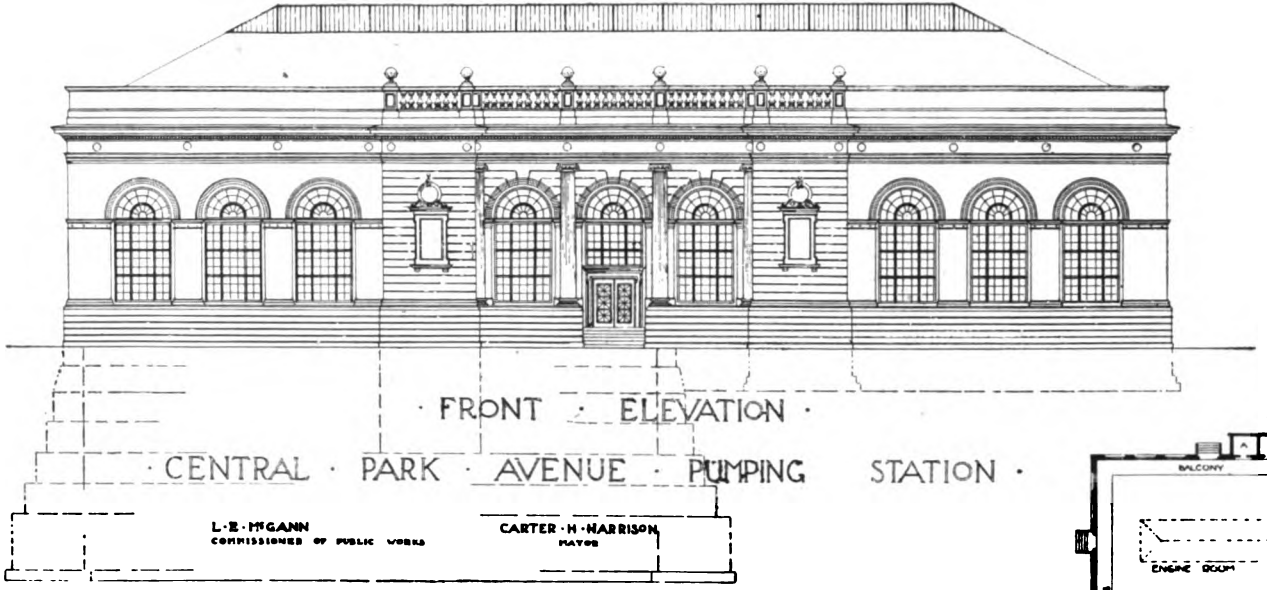
DATE.	January.	February.	March.	April.	May.	June.	July.	August.	September	October.	November	December
1	.04	.00	.09	.00	.00	Trace	Trace	.83	Trace	.00	21	.07
2	1.22	.00	.08	.06	.09	.05	.00	Trace	Trace	.00	Trace	.08
3	1.24	.00	.03	.00	.04	.04	.00	.00	.00	.00	.00	.03
4	.02	.00	.05	.03	.00	.00	.00	.17	.00	.00	.00	.28
5	.03	.25	.10	Trace	.00	.00	.37	.00	.00	.00	.06	.01
6	Trace	12	Trace	.04	.00	.05	.00	.00	.00	.00	.00	.02
7	Trace	.00	Trace	.01	.00	.00	.00	.00	.00	Trace	Trace	.00
8	.00	Trace	.30	.00	Trace	.00	.00	.00	.00	Trace	.31	.00
9	.00	Trace	.51	.00	.00	.00	.00	.40	.00	00	.60	Trace
10	Trace	.21	.00	.03	.00	.08	.10	.00	.00	.00	.00	.20
11	.03	.16	.16	.00	.02	.10	Trace	.00	Trace	.18	.13	.05
12	Trace	.31	.10	.01	.00	Trace	.29	.00	.00	.00	.00	.00
13	.22	.00	Trace	.14	.03	.00	.00	.00	.00	.00	00	.16
14	.02	.00	.04	.00	.18	.00	.00	.17	00	.00	.85	.40
15	Trace	.33	.00	.07	Trace	.00	.00	.00	.00	.00	.27	Trace
16	.27	Trace	.00	.23	.00	.86	.02	Trace	.41	.00	.08	.00
17	.46	.00	.16	.00	.00	1.16	.00	.00	.00	.00	.00	.31
18	Trace	.00	.02	.02	.00	.06	.00	.02	.00	.00	.00	.00
19	.00	00	.53	.01	.00	.47	.00	Trace	.00	.00	.00	.00
20	.20	.45	.03	.00	.01	.01	.01	.00	.43	.00	.00	.02
21	.04	.00	.00	.11	.00	.00	.34	.00	.00	.00	.00	Trace
22	.03	.20	.45	.13	.03	.00	.00	.00	.00	.00	Trace	Trace
23	.45	.00	70	.54	.42	51	.00	.01	.00	.00	.00	.00
24	.15	.00	.30	.16	Trace	.08	.00	Trace	.00	.00	.00	.00
25	.00	Trace	.00	.28	.00	.00	.17	.00	.00	.00	.36	.00
26	.00	.01	Trace	Trace	.00	.00	.17	.00	.00	.00	.19	.00
27	.11	.00	.00	.00	Trace	.00	.01	.00	.00	.00	.00	.00
28	Trace	.18	.00	Trace	01	.12	.00	.10	.00	.00	.00	Trace
29	.00	.....	.00	.35	.00	.01	.00	Trace	.00	.00	Trace	Trace
30	.00	... .	.00	01	.01	Trace	.00	00	.00	.00	00	.00
31	.00	.....	.00	.....	.00	.00	.00	.00	.....	Trace	.....	Trace

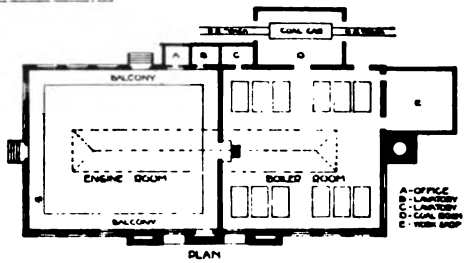
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MONTHLY MEAN BAR. PRESSURE—ANNUAL MEANS, FROM 1873 TO 1897—FOR CHICAGO.

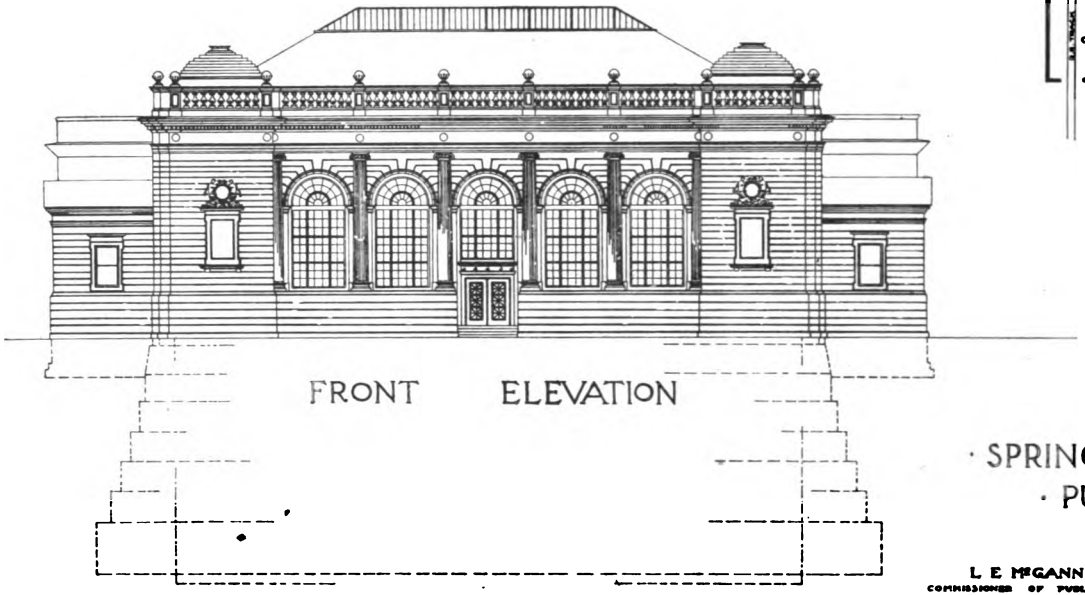
YEAR.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Annual.
1873	29.13	29.14	29.14	29.05	29.02	29.10	29.13	29 17	29.17	29.15	29.11	29.21	29 13
1874	.21	.22	.18	.19	.11	.09	.13	.13	.16	.21	.19	.22	.17
1875	.31	.19	.10	.10	.06	.10	.12	.10	.17	.10	.17	.08	.13
1876	.16	.15	.10	.09	.10	.02	.12	.16	.12	.06	.10	.18	.11
1877	.22	.27	.14	.07	.15	.04	.09	.09	.14	.11	.14	.19	.14
1878	.14	.05	.04	28.91	.06	.06	.11	.04	.18	.12	.15	.16	.08
1879	.22	.19	.18	29.13	.16	.13	.10	.11	.21	.25	.18	.19	.17
1880	.13	.16	.19	.06	.11	.10	.12	.16	.18	.18	.28	.21	.16
1881	.23	.21	.00	.13	.15	.07	.15	.15	.09	.20	.18	.21	.15
1882	.23	.13	.16	.15	.11	.02	.15	.12	.21	.14	.25	.20	.16
1883	.23	.35	.15	.07	.06	.06	.12	20	.20	.22	.19	.19	.17
1884	.25	.13	.13	.07	.07	.16	.06	.17	.15	.24	.19	.20	.15
1885	.22	.10	.18	.13	.05	.15	.10	.11	.16	.11	.09	.15	.13
1886	.15	.17	.08	.17	.09	.12	.11	.11	.17	.30	.13	.27	.16
1887	.16	.23	.13	.07	.11	11	.10	.14	.20	.17	.17	.16	.15
1888	.31	.14	.20	.25	.04	.05	.16	.16	.19	.09	.24	.17	.17
1889	.03	.21	.11	.13	.07	.10	.10	.20	.14	.25	.18	.15	.14
1890	.23	.16	.18	21	.14	.11	.14	.19	.23	06	.17	.20	.16
1891	.16	.11	.14	.12	.23	.07	.16	.12	.25	.22	.17	.14	.16
1892	.20	.20	.17	.15	.02	.06	.20	.15	.21	.18	.17	.20	.16
1893	.08	.19	.11	.01	.03	.10	.10	.15	.12	.13	.14	.18	.11
1894	.17	.20	.11	.12	.07	.13	.16	.17	.17	.06	.17	.19	.14
1895	.10	.22	.14	.12	.13	.17	.14	.08	.14	18	.21	30.00	25
1896	29 23	29.04	29.16	29.14	29.07	29.11	29.15	29.16	29.15	29.17	29.21	29.27	29.16
1897	29.20	29.16	29 13	29.17	29.14	29.10	29.08	29.13	29.29	29.20	29.18	29.17	29 16

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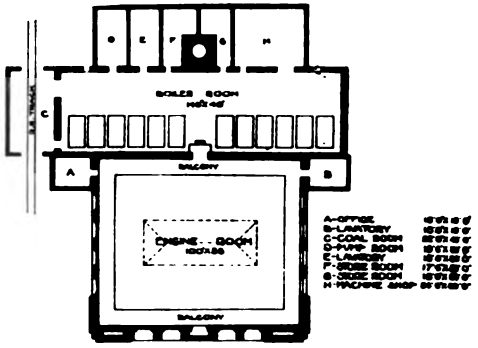




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FRONT ELEVATION



PLAN

· SPRINGFIELD AVENUE ·
· PUMPING · STATION ·

CARTER H. HARRISON
MAYOR

L. E. McGANN
COMMISSIONER OF PUBLIC WORKS

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DIVISION OF ARCHITECTURE.

HENRY SIERKS, City Architect.

The following buildings have been designed and supervised by this division during the year:

BUREAU OF ENGINEERING.

Plans have been made and contracts let for two new water pumping stations, one to be located on Springfield avenue, corner of Bloomingdale road, the other on Central Park avenue, corner of Fillmore street. Springfield avenue station to cost $83,630 without engine room foundation, Central Park avenue station to cost $80,945 without engine room foundation.

The buildings will be constructed of pressed brick and terra cotta, with copper cornices; flashing, etc., tile roof, steel trusses, concrete floors, pressed brick interior for engine room, iron balcony around engine room with circular stair to engine room floor. Steam heat, electric lighting, etc., to make the stations the most complete of their kind in the City. (See illustrations.)

Plans were made for a repair shop and building constructed at Chicago Avenue Pumping station.

BUREAU OF SEWERS.

Plans have been made for an addition to Sixty-ninth Street Sewerage Pumping Station, and building built.

FIRE DEPARTMENT.

NINETY-FIFTH STREET HOUSE.

A frame fire engine house on Ninety-fifth street, head of Cottage Grove avenue, has been completed since last report. Cost, $2,361.

SOUTH PLACE HOUSE.

A frame fire engine house on South Place, between Magnolia avenue and Evanston, has been completed. Cost $2,993.00.

HURON STREET HOUSE.

Plans were made and estimates taken for fire engine house to be built on Huron street, corner Lawndale avenue, to cost $6,500.00, to be built of brick with stone trimmings and copper cornices. Building to be two story and basement, fitted up in the most complete style.

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Police Department.

Cottage Grove Avenue Police Station.

Plans were made and contracts let for police station now being constructed on Cottage Grove avenue, near Twenty-sixth street. The building will be completed February 1, 1898. The police station proper faces on Cottage Grove avenue. It will cost, complete, $20,000.00. First story front to be built of cut stone, above to be pressed brick with terra cotta trimmings. The patrol barn faces on South Park avenue and is constructed of pressed brick with stone trimmings, interior of barn to be faced with pressed brick. The building will be complete in all respects, will have the most modern plumbing, steam heating and electric lighting. Interior finish to be of oak, walls plastered in cement mortar. Cells are stone, with concrete floors.

Forty-seventh Street Police Station.

Plans were made and bids opened for a police station to be erected on the corner of Forty-seventh and Paulina streets, fronts to be of pressed brick with stone trimmings and copper cornices, to cost complete $7,500.00. The interior finish is to be of oak, barn interior to be of pressed brick. Cells to be stone with concrete floor. The most modern plumbing will be used and building will be complete in all respects.

House of Correction.

Cell House Addition to John Worthy School.

Plans were prepared for a cell house addition to John Worthy school. The building is now under roof and will be completed by March 1st, 1898. There will be 114 steel cells and 3 dormitories to accommodate in all 162 inmates. Above the dormitories is the chapel, large enough to accommodate 200 people. The building is constructed of brick, made at the House of Correction, with stone strimmings on front. The interior is all plastered in cement mortar, using as little wood as possible. Concrete floors throughout building, and furnished with the best call water closet and basin for every cell. A system of steam heating and ventilation will be put in that will heat and ventilate properly each and every cell. The building will have electric lights throughout. Will cost complete $50,000.00.

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CHANGES IN CITY HALL.

COMPTROLLER'S OFFICE.

Plans were made for fixtures in City Comptroller's Office. The fixtures are of oak, with mahogany shelf, finished in the best manner at a cost, complete, of $950.00.

CITY COLLECTOR'S OFFICE.

Plans were made for fixtures in the City Collector's Office at a cost of $2,179.00, complete.

CIVIL SERVICE HEADQUARTERS.

Plans were made and partitions, etc., built for the Civil Service Commission. Cost complete, $564.80.

COUNCIL CHAMBER.

Plans were made for alteration of Council Chamber and the work completed at a cost of $1,545.00, also committee rooms for the Council, estimated cost $2,300.00, which work is now being done.

HEALTH DEPARTMENT.

Plans have been prepared for reconstruction of Health Department Laboratory at an estimated cost of $4,300.00.

In conclusion I beg to return thanks to you for your hearty co-operation and support in all matters pertaining to the work of this Bureau. I also take pleasure in acknowledging the faithful service rendered by the engineers and other employees connected with the Bureau of Engineering.

Yours very respectfully,

JOHN ERICSON,
City Engineer.

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REPORT OF THE

Bureau of Track Elevation

CITY OF CHICAGO.

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TRACK ELEVATION REPORT, 1897

The following report on track elevation shows the number of ordinances that have been passed by the City Council for the elevation of railroad tracks since the date of commencement of track elevation, giving the date of the passage of ordinances, the number of miles of railroad tracks elevated, and the number of grade crossings eliminated; also giving approximately the cost of the work which has been done, and also the cost of the work yet to be done:

The first ordinance was passed on May 23, 1892, for the elevation of the roadbed and tracks of the Illinois Central Railroad Company from Forty-seventh street to Seventy-first street, a distance of three miles, eliminating thirteen grade crossings, at an estimated cost of $2,000,000, or about $666,666 per mile of elevation.

On July 9, 1894, a joint ordinance was passed for the elevation of the roadbed and tracks of the Lake Shore & Michigan Southern Railway, and the Chicago, Rock Island & Pacific Railway, from Sixteenth street to Sixty-ninth street on the Chicago, Rock Island & Pacific and to Sixty-seventh street on the Lake Shore & Michigan Southern Railway, a distance of about 8.5 miles, eliminating forty-one grade crossings; and have so far completed five miles at an estimated cost of $1,500,000, and they have yet 3.5 miles to elevate at a probable cost of about $1,500,000.

On February 18, 1895, an ordinance was passed for the elevation of the tracks of the Galena division of the Chicago & North-Western Railway, from Sacramento avenue west to the Belt Railway in Forty-sixth street, a distance of 2.5 miles, eliminating six grade crossings. This work was completed in November, 1895, at a total cost of about $400,000.

ELIMINATING TWENTY GRADE CROSSINGS.

On March 30, 1896, an ordinance was passed for the elevation of the roadbed and tracks of the Milwaukee and Wisconsin divisions of the Chicago & North-Western Railway Company, from Wrightwood avenue on the Milwaukee division to Rosehill cemetery, a distance of about 4.5 miles, eliminating twenty grade crossings, at an estimated cost of $900,000; this work has been done.

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On the Wisconsin division, from Armitage avenue to North Forty-fourth avenue, eliminating forty-eight grade crossings, a distance of about 4.5 miles, at an estimated cost of $1,000,000; none of this work has been done, but all preparations have been made and plans approved to commence the elevation of this division on the first day of March, 1898.

On July 27, 1896, an ordinance was passed by the City Council for the elevation of the roadbed and tracks of the Pittsburg, Fort Wayne & Chicago Railway, from Fifty-fifth street south to Sixty-seventh street, eliminating thirteen grade crossings, a distance of two miles, at an estimated cost of $750,000.

During the year 1897, the workmen completed about $250,000 of this work by the construction of retaining walls, and the foundations for the abutments of the several subways.

On January 18, 1897, supplemental ordinances were passed for the elevation of the roadbed and tracks of the Pittsburg, Fort Wayne & Chicago Railway, from State street to St. Lawrence avenue, a distance of one mile, and eliminating two grade crossings, at a probable cost of $150,000; also for the elevation of the roadbed and tracks of the Lake Shore & Michigan Southern Railway from Sixty-first street to St. Lawrence avenue, a distance of about two miles, eliminating two grade crossings; also the elevation of their railroad yard between State street and South Park avenue, at a probable cost of $1,000,000. No work has yet been done under this ordinance.

On January 18, 1897, an ordinance was passed for the elevation of the railroad tracks in Rockwell street, from Kinzie street to Ogden avenue viaduct, a distance of about two miles, eliminating nineteen grade crossings, at an estimated cost of about $1,000,000. All of this work was done in 1897.

FOR THE ST. CHARLES AIR LINE.

On May 17, 1897, an ordinance was passed for the elevation of the roadbed and tracks of what is known as the St. Charles Air Line, covering about three miles of track elevation in the neighborhood of Sixteenth street, eliminating eight grade crossings, at a probable cost of about $2,000,000. No work has yet been done on this ordinance, except as to the elevation of the South Side Rapid Transit Company's elevated roadbed and tracks, which have been elevated over the tracks of the St. Charles Air Line, just north of Sixteenth street, which was included in this ordinance.

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The several railroad companies interested in this work have made all preparations to begin the work early in the spring of 1898; and it is expected to have the work all completed within three months.

On December 2, 1897, an ordinance was passed providing for the elevation of the Chicago & North-Western Railway, from Chicago avenue viaduct to Diversey avenue on the Milwaukee Division, there to connect with the present elevated roadbed and tracks of said railway, and also extending to Wood street on the Wisconsin Division, there also to connect with the proposed elevation as provided in the ordinance passed March 30, 1896; a total distance of a little over three miles; eliminating twenty-seven grade crossings, at a probable cost of about $1,200,000.

This ordinance also provides for the elevation of the Chicago, Milwaukee & St. Paul Railway where it crosses the Chicago & North-Western Railway, and extending from the east side of the Chicago River Bridge to Paulina street on the west, a distance of about one-half mile; eliminating three grade crossings. This work is estimated to cost about $100,000 and it is expected it will commence not later than May 15, 1898.

On December 2, 1897, an ordinance was passed for the elevation of the roadbed and tracks of the Chicago, Milwaukee & St. Paul Railway, and extending from a point east of Irving Park boulevard, northwesterly, to a point north of Irving Park boulevard, a distance of about six miles, and also for the elevation of its Branch Line at Pacific Junction, a distance of about three-fifths of a mile, and also for the elevation of the Chicago & North-Western Railway (Mayfair Cut-off Branch Line) from a point south of Milwaukee avenue northwardly to a point north of Irving Park boulevard, a distance of about seven-tenths of a mile, eliminating in all thirty grade crossings.

RECAPITULATION.

All of the work under ordinances of December, 1897, is estimated to cost about $2,400,000.

Total miles of track elevation, as per ordinances passed		45.7
" " " " completed to Dec. 31, 1897		19.0
" " " " yet to be elevated		26.7
" grade crossings to be eliminated, as per ordinances passed		243
" " " eliminated by completed elevation		86
" " " yet to be eliminated as per ordinances passed		157
" approximate estimate of cost, as per ordinances passed	$16,130,000	
" " amount expended to Dec. 31, 1897	6,050,000	
" " estimate of amount yet to be expended		$10,080,000

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It will be seen from the above report that track elevation in Chicago is now an assured success, and bound to move steadily on until every dangerous grade crossing within the city limits is eliminated.

The advantages it assures to the people are manifold: it does away with the enormous evil of grade crossings; it insures safety to life; it solves the problem of rapid transit, as the speed need not be regulated by city ordinances; it does away with the delays and interruption to street travel; it dispenses with guards and gates at street crossings; it makes null and void the ordinance regulating the length of trains, and the number of cars on a train, within the city; it does away with the ringing of bells and the gentle midnight whisperings of the industrious locomotive.

When it was supposed that the elevation of tracks would be an injury to the industries along the right of way of the roads it has proved to be a benefit, and every industry, so far, has been accommodated and satisfied.

Respectfully submitted,

JOHN O'NEILL,
Expert on Track Elevation.

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REPORT OF THE

Bureau of Water

CITY OF CHICAGO

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WATER OFFICE REPORT

HON. LAWRENCE E. McGANN,
Commissioner of Public Works.

DEAR SIR: The annual report for the year 1897, detailing the conduct of the affairs for this Bureau, is herewith respectfully submitted.

The report needs but little comment. It comprises twenty-eight (28) tables. Each table is self-explanatory, and where comparison is deemed of interest makes such comparison.

The tables referred to above, follow in the order in which the revenue of the Department is produced and disposed of.

Your attention is respectfully called to Tables No. 1, 10, 17, 20, 25 and 27.

Tables No. 21 and 25 are new, that is to say they furnish information not heretofore prepared.

The contract which you made with the United States and Pacific Express Companies for the collection of water bills at their various branch offices throughout the City, has proven a valuable adjunct to the Collection Department.

From January to July 13, 1897, they collected.....	31,805 water bills, amounting to.....	$180,213.37
From July 14, 1897, to January 7, 1898, they collected.	37,866 water bills, amounting to.....	195,636.71
Making a total for the year of.....	69,671 water bills, amounting to.....	375,850.08

The results for the year are gratifying considering the difficulties attending the collection of money during the period of stringency covering the time represented. The success which has attached to the efforts of the Bureau is due, largely, to His Honor, Mayor Harrison, and yourself for the hearty co-operation extended me and my staff, for which our united thanks are respectfully returned.

Respectfully submitted,

FELIX LANG,
Superintendent of Water.

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TABLE No. 1.

SHOWING AMOUNTS UNCOLLECTED DECEMBER 31, 1896, AND DECEMBER 31, 1897, IN COMPARISON.

	1896.	1897.
Amount shown as uncollected by annual report December 31, 1896	$ 484,001 08	
Collections for January, 1897, carried back to December, 1896	222,867 12	
Discounts for January, 1897, carried back to December, 1896	15,332 20	
Amount remaining uncollected on meter ledgers December 31, 1896, as shown by a careful checking $ 131,889 30		
Less—		
Amount accounted for in annual report for 1896 70,206 74		
	61,682 56	
Amount standing as uncollected on the ward ledgers December 31, 1897		$ 689,961 84
Amount standing as uncollected on the meter ledgers December 31, 1897		153,660 37
Amount standing as uncollected on the meter mechanical ledgers December 31, 1897		4,237 26
	$783,882 96	$ 847,859 47
NOTE: The following explanation should be made concerning amount standing as uncollected, viz		$ 153,660 37
The ordinance provides that meter bills shall be paid within thirty days. During the month of January, 1898, there will be collected approximately	$ 86,000 00	
There are to be examined for decreasing, on account of religious, educational, charitable, and public institutions' accounts, which will be removed from the meter ledgers after inspection and verification, approximating	16,000 00	
		$ 102,000 00
Leaving a balance of		$ 51,660 37
The delinquencies unaccounted for in 1896 amount to, as shown above		$ 61,682 56
From which deduct		51,660 37
Leaving		$ 10,022 19
Which represents, approximately, the collections applicable to the delinquencies of 1896; showing at the same time an improvement in the conduct of the Meter Rate Department.		

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TABLE No. II.

SHOWING BUILDINGS EXAMINED BY THE INSPECTION DEPARTMENT.

1897.	One-Story.	Two-Story.	Three-Story.	Four-Story.	Five-Story.	Six-Story.	Seven-Story and over.	Special Examinations.	New Buildings Examined.	Examination for Vacancies.	Examination for Frontage.	Total per Month.	Pipe Petition and Pipe Deposit Exam'tions.
January	161	339	357	437	354	87	226	592	450	152	.....	3,155	.....
February	305	764	955	957	72	14	17	234	365	45	.....	3,728	.....
March	160	1,220	755	214	41	1	2	217	271	5	.....	2,886	.....
April	164	423	740	212	17	3	5	274	56	.....	.....	1,894	.....
May	120	688	721	150	18	2	5	1,385	.....	362	.....	3,446	.....
June	180	784	702	151	17	4	6	2,314	150	500	.....	4,808	.....
July	203	1,528	500	120	7	5	6	626	1,350	165	.....	4,510	.....
August	400	1,640	740	208	8	.....	5	603	1,130	60	.....	4,794	.....
September	51	669	595	112	14	4	6	577	420	42	1,208	3,698	.....
October	.....	.....	.....	.....	.....	.....	.....	597	690	18	3,061	4,861	.....
November	.....	.....	.....	.....	.....	.....	.....	3,653	527	639	.....	4,819	.....
December	.....	.....	.....	.....	.....	.....	.....	3,603	585	1,164	.....	5,352	.....
TOTAL	1,744	8,050	6,065	2,561	548	120	278	14,675	5,994	3,147	4,269	47,451	478
1896	7,593	17,051	8,322	2,782	506	89	.....	8,410	3,418	961	.....	49,132	599

NOTE.—The result of the work performed by the Inspection Department will be better understood by examining Table No. 10, which shows an increase to the income account to the amount of $84,142.76, as a result of the performances of the Inspection Department.

This table, No. 2, shows a less number of buildings inspected during the year 1897 than was inspected during the year 1896.

In 1896 the majority of the buildings inspected were one, two and three-story buildings. The one and two-story buildings produce no revenue to the Bureau other than that represented by the amount for frontage. The same may be said of the two-story buildings, because they rarely ever contain more than one set of fixtures, which are exempt under the ordinances.

The policy of the Bureau has been to have examinations made upon that character of buildings productive of revenue, and the result commends the wisdom of such policy.

The examinations referred to in the column headed "Examination for Frontage," represent cases where it was deemed advisable to examine buildings which, upon the books of the Bureau, bore the notation of being "under meter."

In the latter part of the year 1896 an annual examination was begun in the 25th and 26th wards, which was completed in the early part of the year 1897. Annual examinations have also been made during the year in the 1st, 2d, 3d, 4th and 32d wards.

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TABLE No. III.

LIST OF STREETS ORDERED FOR IMPROVEMENT, WITH ESTIMATES, NUMBER AND COST OF WATER SERVICE PIPES RETURNED TO SUPERINTENDENT OF SPECIAL ASSESSMENTS DURING THE YEAR 1897.

STREET	FROM	TO	Number of Pipes	Amount
Aberdeen	Sixty-seventh	Sixty-ninth	63	$1,071 00
Addison avenue	Lake Shore Drive	100 feet west	Notified	
Armitage avenue	Forty-fourth avenue	Grand avenue	274	4,932 00
Baker avenue	Wallace	Wabash R.R.	24	432 00
Ballou avenue	Armitage avenue	McLean avenue	No Frontage	
Ballou avenue	Fullerton avenue	McLean avenue	No Frontage	
Berenice avenue	Lincoln avenue	W. Ravenswood Park	25	450 00
Berwyn avenue	Southport avenue	Lakewood avenue	No Frontage	
Belden avenue	Kimball avenue	Central Park avenue	52	936 00
Claremont avenue	Thirty-third	Thirty-fifth	101	1,117 00
Costello avenue	Kimball avenue	Central Park avenue	64	1,152 00
Central Park avenue	Twelfth	Douglas park boul'd	40	640 00
Central Park avenue	Fullerton avenue	McLean avenue	82	1,312 00
Chestnut	Pine	Lake Shore Drive	50	1,000 00
Clifton Park avenue	Ogden avenue	Douglas Park boul'd	158	2,844 00
Christiana avenue	Division	Grand avenue	39	702 00
Cortez	Kedzie avenue	Second alley west	Notified	
Central Park avenue	Armitage avenue	McLean avenue	No Frontage	
Columbia	Lawndale avenue	Hamlin avenue	35	630 00
Courtlandt	Central Park avenue	Fortieth avenue	96	1,728 00
Central Park avenue	Colorado avenue	Harrison	Duplicate	
Colorado avenue	Fortieth avenue	Forty-eighth avenue	303	5,151 00
Carroll avenue	Forty-fifth avenue	Forty- sixth avenue	34	612 00
Cornelia	Western avenue	Rockwell	45	810 00
Diversey avenue	Lawndale avenue	Central Park avenue	19	342 00
Dickens avenue	Kimball avenue	Central Park avenue	64	1,152 00
Emerald avenue	Fifty-ninth	Sixtieth	Notified	
Emerald avenue	Seventy-second	Seventy-fifth	86	1,376 00
Erie avenue	130th	Howard	251	4,016 00
Forty-second avenue	Lake	Kinzie	No Frontage	
Forty-fourth avenue	Madison	Twelfth	137	2,192 00
Johnston avenue	Twenty-seventh	Twenty-seventh place	Notified	
Jeffrey avenue	Jackson Park	Seventy-first	191	3,056 00
Jeffrey avenue	Seventy-third	Ninety-first	788	13,284 00
Kinzie	Fortieth avenue	Forty-sixth avenue	50	900 00
Kimball avenue	McLean avenue	Armitage avenue	No Frontage	
Kedzie avenue	Elston avenue	Belmont avenue	125	2,000 00
Lexington	Fortieth avenue	Forty-first avenue	23	414 00
Lawndale avenue	Armitage avenue	North avenue	92	1,656 00
Lawndale avenue	Armitage avenue	McLean Avenue	No Frontage	
Lawndale avenue	C. B. & Q. R. R.	Twenty-fifth	34	648 00
Lunt avenue	Western avenue	Ridge avenue	Pipes in	
Lexington	Forty-third avenue	Forty-fifth avenue	40	640 00
Lyndale avenue	Kimball avenue	Central Park avenue	58	1,044 00
Lowe avenue	Seventy-second	Seventy-fifth	46	736 00
Loomis	Sixty-fifth	Sixty-seventh	79	1,264 00
Layton	Wallace	Stewart avenue	24	432 00
Milwaukee avenue	Lawrence avenue	C. & N.-W. Ry	86	1,548 00
McLean avenue	Kimball avenue	Hamlin avenue	Pipes in	
"M" avenue	Ninety-fifth	102nd	163	2,934 00
"M" avenue	102nd	105th	87	1,566 00
Minerva	Sixty-fifth	Sixty-seventh	71	1,278 00

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LIST OF STREETS ORDERED FOR IMPROVEMENT—CONTINUED.

STREET	FROM	TO	Number of Pipes	Amount
Medill avenue	Kimball avenue	Central Park avenue	59	$1,067 00
Morgan	Forty-seventh	Fifty-first	73	1,168 00
May	Forty-eighth	Fifty-first	106	1,908 00
Madison	Homan	Hamlin	Pipes in	
May	Sixty-seventh	Sixty-eighth	23	391 00
Monroe avenue	Sixty-eighth	Seventieth	30	510 00
Ninety-first	Exchange avenue	S. Chicago avenue	23	480 00
Ogden avenue	Douglas Park	Albany avenue	None needed.	
Polk	Fortieth avenue	Forty-first avenue	38	608 00
Paulina	Madison	125 feet south	No Frontage.	
Peoria	Forty-ninth	Fifty-first	No Frontage.	
Robey	Archer avenue	Thirty-ninth	84	1,512 00
Ridgeway avenue	Armitage avenue	Wabansia avenue	79	1,422 00
Sixtieth	South Park avenue	Rhodes avenue	None needed.	
St. Charles avenue	Irving Park avenue	Montrose avenue	45	900 00
Sacramento avenue	Twenty second	Twenty-third	19	342 00
Sunnyside avenue	Robey	Lincoln avenue	34	680 00
Seventy-fifth	Stony Island avenue	I. C. R.R.	Duplicate	
Seventy-fifth	Cottage Grove ave.	I. C. R.R.	101	2,020 00
Sixty-fourth	Stewart avenue	Wentworth avenue	Pipes in	
Forty-first avenue	Madison	Kinzie	10	180 00
Forty-fifth avenue	Madison	Harrison	56	896 00
Fortieth avenue	Lake	North-Western Ry	Duplicate	
Forty-fourth avenue	Lake	Kinzie	No Frontage.	
Forty-fifth avenue	Lake	Kinzie	No Frontage.	
Fifty-eighth	Michigan avenue	South Park avenue	No Frontage.	
Forty-eighth avenue	North avenue	Fullerton avenue	252	5,040 00
Fiftieth court	Armitage avenue	Humboldt avenue	80	1,440 00
Forty-second avenue	Berteau avenue	Montrose avenue	36	720 00
Forty-second avenue	Twenty-sixth	Thirty-first	143	2,574 00
Forty-sixth	Halsted	Stewart avenue	Pipes in	
Forty-ninth	Michigan avenue	State	No Frontage.	
Forty-first avenue	VanBuren	Harrison	No Frontage.	
Forty-fifth avenue	Lexington	Harrison	32	412 00
Flournoy	Forty-fourth avenue.	Forty-fourth place	St. not open	
Forty-fourth court	Harrison	Lexington	34	544 00
Fortieth avenue	Grand avenue	Chicago avenue	36	648 00
Fortieth avenue	North avenue	Chicago avenue	263	4,208 00
Fortieth avenue	Fillmore	Ogden avenue	310	5,270 00
Forty-sixth	Wentworth avenue	Lake Shore R.R.	Notified	
Forty-eighth avenue	Lake	Chicago avenue	82	1,312 00
Forty fourth avenue	Twelfth	Sixteenth	161	2,576 00
Forty-sixth	Loomis	Robey	92	1,472 00
Fullerton avenue	Fortieth avenue	Forty-eighth avenue	335	5,360 00
Fullerton avenue	Kedzie avenue	Fortieth avenue	318	5,406 00
Forty-fifth court	Jackson	Harrison	46	736 00
Grand avenue	Forty-fourth avenue	Sixtieth avenue	527	9,486 00
Grenshaw	Fortieth avenue	Forty-first avenue	38	684 00
Grenshaw	Forth-first avenue	Forty-second avenue	41	738 00
Hoyne avenue	Thirty-third avenue	Thirty-fourth	Notified	
Harvard	Douglas Park blvd	Fortieth avenue	80	1,440 00
Hermitage avenue	Armitage avenue	C. & N.-W. Ry	Pipes in	
Hamlin avenue	Armitage avenue	North avenue	109	1,962 00
Hancock	McLean avenue	Armitage avenue	No Frontage.	
Hamlin avenue	MeLean avenue	Armitage avenue	Notified	
Haddon avenue	Kedzie avenue	Second alley west	Notified	
Hancock	Fullerton avenue	McLean avenue	No Frontage.	

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LIST OF STREETS ORDERED FOR IMPROVEMENT—CONTINUED.

STREET	FROM	TO	Number of Pipes	Amount
Humboldt avenue..	Kimball avenue.....	Central Park avenue.	45	$ 810 00
Hirsch	Kedzie avenue.....	Homan avenue	64	1,170 00
Harvard avenue...	Sixty-third	Sixty-seventh	Notified	.....
Indiana avenue ...	Seventy-first	Seventy-third.....	95	1,615 00
Sixty-fifth	Stewart avenue.....	Wentworth avenue..	Pipes in	.....
Sixty-sixth....	Stewart avenue.....	Wentworth avenue..	Pipes in	.....
Sixty-seventh	Stewart avenue.....	Wentworth avenue..	Notified	.....
Tallman avenue....	Diversey avenue	Wellington avenue..	87	1,392 00
Twenty-sixth	Fortieth avenue	Forty-second	84	1,680 00
Thomas	Kedzie	Second alley west...	Notified	.....
Trumbull avenue...	Ohio	Central Park avenue	28	448 00
Throop.....	Forty-seventh	Fifty-first	Notified	.....
Washtenaw avenue.	Harrison.....	Lexington.....	No Frontage..	... .
Waveland avenue ..	Lake Shore Drive ..	100 feet west.....	Notified	.....
Whiting....	Wells.	Eastern Terminus...	Notified	... .
Washtenaw avenue.	Chicago avenue.....	Grand avenue	Notified	.....
Wrightwood avenue.	Logan square	Kimball avenue.....	68	1,184 00
Wrightwood avenue	Central Park avenue.	Hamlin avenue	74	1,332 00
Yale avenue	Sixty-third	Sixty-seventh	Pipes in	.....

Total number of streets assessed..... 128

Total number of pipes..... 8,284

Total amount for pipes..... $144,290 00

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TABLE No. IV.

WATER SERVICE PIPES LET AND PUT IN BY CONTRACT DURING YEAR ENDING DECEMBER 31, 1897, SHOWING THE NUMBER OF PIPES; TOTAL AMOUNT OF CONTRACT; COST OF LAYING, AND AMOUNT FOR TAPS AND ASSESSOR'S COST.

STREET	FROM	TO	Number of Pipes	Laying	Taps	Assessor's Cost	Amount of Contract
Allen avenue	Milwaukee avenue	Kimball avenue	70	$ 423 85	$ 245 00	$ 105 00	$ 773 85
Argyle	Clark	Evanston avenue	66	374 55	231 00	99 32	704 87
Augusta	Robey	California avenue	104	687 25	364 00	156 19	1,207 44
Avers avenue	Twenty-second	Chicago, Burlington & Quincy R. R.	28	145 86	80 50	34 50	260 86
Avondale avenue	Belmont avenue	California avenue	25	97 75	87 50	37 50	222 75
Burnett avenue	Robey	Leavitt	43	261 88	150 50	64 92	477 30
Beach avenue	Kedzie avenue	Homan avenue	66	382 68	231 00	99 12	712 80
Berenice avenue	W. Ravenswood Park	Lincoln avenue	17	114 14	59 50	25 60	199 24
Bernard avenue	Noble avenue	Belmont avenue	30	253 80	105 00	45 00	403 80
Bishop	Sixty third	Sixty-fifth	25	121 95	87 50	37 55	247 00
Bishop	Sixty-fifth	Sixty-seventh	61	317 50	213 50	91 81	622 81
Brooks avenue	Seventy-third	Seventy-fifth	44	206 18	154 00	66 18	426 36
Brost avenue	Southport avenue	Evanston avenue	28	323 40	98 00	42 00	463 40
Carpenter	Sixty-seventh	Sixty-ninth	52	468 76	182 00	78 00	728 76
Carroll avenue	Albany avenue	Sacremento avenue	43	253 33	150 50	64 87	468 70
Catalpa court	Humboldt boulevard	Edgewood avenue	57	286 34	199 50	85 87	571 71
Central Park avenue	Harrison	Twelfth	73	530 75	255 50	109 50	895 75
Christiana avenue	Milwaukee avenue	George	25	221 49	87 50	37 51	346 50
Christiana avenue	Wellington avenue	Belmont avenue	39	239 20	136 50	58 50	434 20
Columbia	Humboldt avenue	North avenue	44	252 90	154 00	66 00	472 90
Cook	Forty-seventh	Forty-ninth	9	71 73	31 50	13 50	116 73
Cornelia	Robey	Leavitt	53	303 36	185 50	79 83	568 69
Cornelia	Western avenue	Rockwell	32	210 56	112 00	48 00	370 56
Crawford avenue	Center	Everett	79	448 18	276 50	119 04	843 72
Crescent place	Evanston avenue	Halsted	24	233 52	84 00	36 00	353 52
Dawson avenue	Milwaukee avenue	Wellington avenue	61	361 75	213 50	92 09	667 34

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WATER SERVICE PIPES LET AND PUT IN BY CONTRACT DURING YEAR—CONTINUED.

STREET	FROM	TO	Number of Pipes	Laying	Taps	Assessor's Cost	Amount of Contract
Diversey avenue	Lawndale avenue	Central Park avenue	19	$ 175 75	$ 66 50	$ 28 50	$ 270 75
Drake avenue	Elbridge avenue	Belmont avenue	37	220 86	129 50	55 53	405 89
Eberly avenue	Belmont avenue	Noble avenue	25	152 67	87 50	37 50	277 67
Elbridge avenue	Central Park avenue	Noble avenue	56	343 34	196 00	84 00	623 34
Evergreen avenue	Kedzie avenue	Homan avenue	81	552 69	288 50	122 04	958 23
Fiftieth place	Halsted	Morgan	34	189 22	119 00	51 16	359 38
Forty-second avenue	Twenty-second	Thirty-first	119	1,066 39	416 50	178 50	1,661 39
Forty-second avenue	Berteau avenue	Montrose avenue	29	206 78	101 50	43 78	352 06
Forty-seventh	Paulina	Western avenue	214	1,547 86	749 00	321 00	2,617 86
Forty-ninth court	Halsted	Morgan	53	298 46	185 50	79 96	563 92
Fulton	Forty-fourth avenue	Forty sixth avenue	36	242 45	126 00	54 19	422 64
Goodspeed	Forty third	Forty-seventh	56	338 61	196 00	84 19	618 80
Greenwood avenue	Seventy-first	Seventy fifth	43	239 06	150 50	64 50	454 06
Grenshaw	Fortieth avenue	Forty-first avenue	35	415 95	122 50	52 70	591 15
Grenshaw	Forty-first avenue	Forty-second avenue	34	372 73	119 00	51 25	542 98
Gresham avenue	Milwaukee avenue	Noble avenue	53	519 10	185 50	79 80	784 40
Harding avenue	Chicago avenue	Augusta	42	373 46	147 00	68 34	588 80
Harrison	Fortieth avenue	Forty-sixth avenue	133	686 59	465 50	199 50	1,351 59
Hamlin avenue	Chicago avenue	North avenue	195	1,202 59	682 50	293 06	2,178 15
Hermitage avenue	Forty-fifth	Forty-seventh	26	156 50	91 00	39 02	286 52
Homan avenue	Twenty-second	Twenty-sixth	123	1,226 40	430 50	185 64	1,842 54
Homan avenue	Central Park avenue	Chicago avenue	121	1,200 78	423 50	182 25	1,806 53
Humboldt	Milwaukee avenue	Diversey avenue	78	464 02	273 00	117 08	854 10
Huron	Kedzie avenue	Central Park avenue	18	80 64	63 00	27 00	170 64
Indiana avenue	Sixty-second	Sixty-third	35	190 75	122 50	52 50	365 75
Iowa	Hoyne avenue	Leavitt	30	162 30	105 00	45 00	312 30
Justine	Sixty-third	Sixty-fifth	29	136 74	101 50	43 64	281 88
Justine	Sixty-fifth	Sixty-seventh	43	386 60	150 50	64 90	602 00
Kimball avenue	Belmont avenue	Wellington	47	443 38	164 50	70 50	678 38
Kinzie	Fortieth avenue	Forty-sixth avenue	32	185 92	112 00	48 00	345 92
Laflin	Sixty-third	Sixty-fifth	20	86 56	70 00	30 04	186 60
Laflin	Sixty-fifth	Sixty-seventh	43	408 35	150 50	64 92	618 77

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Lawndale avenue	Chicago avenue	Division	114	1,232 34	399 00	171 00	1,802 34
Leavitt	Chicago avenue	Division	136	668 32	476 00	204 80	1,349 12
LeMoyne	Kedzie avenue	Homan avenue	45	283 05	157 50	67 50	508 05
Lexington avenue	Seventy-first	Seventy-fourth	47	233 30	164 50	70 79	468 59
Lincoln	Forty-seventh	Fifty-first	76	802 58	266 00	114 00	1,182 58
Loomis	Sixty-third	Sixty-fifth	60	663 33	210 00	90 27	963 60
Marshfield avenue	Forty-fifth	Forty-seventh	21	118 86	73 50	31 50	223 86
Marshfield avenue	Sixty-third	Sixty-fifth	29	144 77	101 50	43 73	290 00
Marvin	Oakley avenue	Pan Handle R. R	18	283 50	4 50	.....	288 00
Morgan	Sixty-fifth	Sixty-ninth	66	604 12	231 00	99 00	934 12
Oakley avenue	Ems	Fullerton avenue	36	221 06	126 00	54 34	401 40
Oakley avenue	Thirty-first	Thirty-fifth	30	158 83	105 00	45 17	309 00
Paulina	Forty-fifth	Forty-seventh	43	241 76	150 50	64 83	457 09
Paulina	Forty-seventh	Fifty-first	21	119 35	73 50	31 64	224 49
Peoria	Sixty-sixth	Sixty-seventh	17	92 27	59 50	25 50	177 37
Phillips	Halsted	Sangamon	10	58 50	35 00	15 00	108 50
Peirce	Kedzie avenue	Homan avenue	55	324 08	192 50	82 92	599 50
Rice	Washtenaw avenue	Rockwell	24	248 00	84 00	36 00	368 00
Robey	Forty-seventh	Fifty-first	116	768 40	406 00	174 00	1,348 40
Robey	Fifty-first	Fifty-fourth	87	779 42	304 50	130 60	1,214 52
Sacramento avenue	Twenty-second	Twenty-third	18	150 79	63 00	27 05	240 84
Sangamon	Sixty sixth	Sixth-ninth	8	40 64	28 00	12 00	80 64
Sawyer avenue	Twenty-fourth	Twenty-sixth	63	305 10	220 50	94 95	620 55
Sawyer avenue	Armitage avenue	Fullerton avenue	105	1,133 47	367 50	157 50	1,658 47
Seventy-third	S. Chicago avenue	Illinois Central R. R.	28	161 56	98 00	42 00	301 56
Sheridan avenue	Grand avenue	North avenue	77	498 09	269 50	115 60	883 19
Sixty-third	Center avenue	Ashland avenue	163	1,037 00	570 50	245 81	1,853 31
Sixty seventh	Halsted	Morgan	7	60 02	24 50	10 54	95 06
Sixty-eighth	Halsted	Sangamon	6	29 61	21 00	9 00	59 61
Sixty-ninth	S. Park avenue	Calumet avenue	9	36 56	31 50	13 57	81 63
Sixty-ninth	Halsted	Ashland avenue	122	1,426 65	427 00	183 75	2,037 40
Spaulding avenue	Twenty-fourth	Twenty-sixth	56	300 89	196 00	84 00	580 89
Spaulding avenue	Diversey avenue	Belmont avenue	39	316 54	136 50	58 50	511 54
Stone	Morgan	Center	27	148 71	94 50	40 56	283 77
St. Charles avenue	Irving Park avenue	Montrose avenue	31	266 42	108 50	46 68	421 60
Sunnyside avenue	Robey	Lincoln avenue	12	92 81	42 00	18 07	152 88
Superior avenue	Ninety-second	Ninety-third	12	99 96	42 00	18 00	159 96
Thirty-third	Halsted	Laurel avenue	18	131 40	63 00	27 00	221 40
Thirty-fifth court	Halsted	Laurel	11	71 32	38 50	16 57	126 39
Throop	Fifty-fifth	Sixty-third	183	981 88	640 50	275 33	1,897 71

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WATER SERVICE PIPES LET AND PUT IN BY CONTRACT DURING YEAR—CONTINUED.

STREET	FROM	TO	Number of Pipes	Laying	Taps	Assessor's Cost	Amount of Contract
Tremont	Stewart avenue	Wallace	6	$ 108 00			$ 108 00
Twelfth	Fortieth Avenue	Forty-sixth avenue	199	962 74	$ 696 50	$ 298 50	1,957 74
Twenty-sixth	Fortieth avenue	Forty-second avenue	42	391 65	147 00	63 00	601 65
Union avenue	118th	119th	20	127 20	70 00	30 00	227 20
Weage avenue	Kedzie avenue	Homan avenue	54	549 66	189 00	81 10	819 76
Wentworth avenue	Forty-seventh	Sixty-third	56	874 06	133 94		1,008 00
Whipple	Elston avenue	Belmont avenue	38	485 60	133 00	57 04	675 64
Winthrop avenue	Lawrence avenue	Ainslie	61	605 29	213 50	91 94	910 73
Wood	Forty-third	Forty-seventh	76	955 58	266 00	114 50	1,336 08
Wood	Forty-seventh	Fifty-first	76	399 98	266 00	114 54	780 52
Woodard	Milwaukee avenue	Spaulding avenue	34	263 13	119 00	51 00	433 13
TOTALS			5,840	$42,919 31	$20,298 44	$ 8,659 08	$71,876 83

Average cost per pipe under contract let in 1896 ..... $12 $18\frac{88}{100}$

Average cost per pipe under contract let in 1897 ..... 12 $30\frac{78}{100}$

Cost per pipe in 1897 over 1896 ..... $11\frac{78}{100}$

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TABLE No. V.

PERMIT DEPARTMENT.

SCREW FERRULES INSERTED DURING YEAR 1897.

MONTHS.	½-inch Ferrules Inserted.	¾-inch Ferrules Inserted.	1-inch Ferrules Inserted.	Grand Total of Screw Ferrules Inserted.
January	46	118	4	168
February	43	70	3	116
March	90	194	4	288
April	176	311	11	498
May	109	1,292	3	1,404
June	132	1,389	11	1,532
July	230	839	8	1,077
August	122	1,378	8	1,508
September	259	1,093	13	1,365
October	169	541	16	726
November	591	535	19	1,145
December	92	955	9	1,056
TOTAL	2,059	8,705	109	10,873

The use of Driven Ferrules has been discontinued.

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TABLE No. VI.

RE-TAPS INSERTED DURING 1897.

1-inch	10
¾-inch	301
⅝-inch	623
Total	934

The number of applications made at this office for ferrules to water service pipes during the past year (exclusive of City contracts and re-taps) were as follows:

Inserted in old part of City	973
Inserted in Town of Lake	655
Inserted in Lake View	534
Inserted in Cicero	374
Inserted in Calumet	177
Inserted in Jefferson	721
Inserted in Hyde Park	665
GRAND TOTAL	4,099

TABLE No. VII.

PERMITS.

Permits were issued during the year 1897 as follows:

For tapping water mains for pipes to inside of curb for future use	5,840
For tapping water mains for service pipes to houses not previously supplied	4,099
For connection to service pipes inside of curb lines	257
For 6-inch cast iron pipes to be used as service pipes	4
For 4-inch cast iron pipes to be used as service pipes	8
For 3-inch cast iron pipes to be used as service pipes	1
For 2-inch cast iron pipes to be used as service pipes	30
For miscellaneous or special permits	251
GRAND TOTAL	10,490

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TABLE No. VIII.

TABULATED STATEMENT SHOWING THE NUMBER OF FERRULES INSERTED EACH YEAR FOR THE LAST EIGHTEEN YEARS, AND THE TOTAL NUMBER IN USE DECEMBER 31, 1897.

Year.	Original Town.	*Lake View.	Hyde Park.	*Town of Lake.	*Calumet.	*Cicero.	*Jefferson.	Total.
a 1880	63,510							63,510
1880	4,489							4,489
1881	5,678							5,678
1882	5,213							5,213
1883	6,656							6,656
1884	6,637							6,637
1885	6,555							6,555
1886	8,083							8,083
1887	8,808							8,808
1888	10,089							10,089
1889			b 8,775					8,775
1889	7,617	889	1,780	1,286				11,532
1890	10,127	3,440	3,833	3,951	152	289	20	21,812
1891	10,237	2,458	5,658	4,165	234	59	570	23,381
1892	7,224	3,178	4,813	3,862	271	63	2,146	21,572
1893	7,990	2,334	3,586	4,223	308	153	1,435	20,029
1894	6,642	2,271	2,770	1,922	392	843	1,044	15,884
1895	5,015	2,262	3,152	1,750	410	750	1,326	14,665
1896	3,551	1,927	2,792	1,838	292	1,663	869	12,932
1897	2,607	851	891	2,552	197	1,004	1,837	9,939
Total	186,678	19,605	38,000	25,569	2,256	4,824	9,247	286,179

* Number of ferrules inserted in suburbs previous to annexation, unknown.
a Number of ferrules inserted previous to 1880.
b Number of ferrules inserted in Hyde Park previous to annexation.

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TABLE No. IX.

PERMIT DEPARTMENT—INCOME ACCOUNT.

DEBIT.

Stock account, January 1, 1897, per inventory..		$ 4,015 90	
Amount paid for ferrules	$2,060 28		
Amount paid for couplings	40 38		
Amount paid for plugs	578 00		
Amount paid for valves, washers, etc	340 74		
		3,019 40	
Amount paid for printing and stationery.....	$ 89 50		
Amount paid for transportation	539 16		
Amount paid for drills.....	1,005 54		
Amount paid for tools, tapes, etc.....	216 17		
Amount paid for repairs to tapping machines, etc.....	628 54		
Amount paid for miscellaneous.....	275 14		
		2,754 05	
Salaries of clerks.....	$ 3,403 40		
Salaries of inspectors.....	10,133 44		
Salaries of tappers	14,323 38		
Salaries of expressmen	12,390 00		
Salaries of foremen.....	788 52		
Salaries of laborers.	3,769 18		
		44,807 92	
			$54,597 27

CREDIT.

Amount received for inserting ferrules .....$	14,215 70		
Less amount erroneously carried back to December, 1896	422 60		
		$ 13,793 10	
For street improvements collected through Special Assessment Department.....		51,389 90	
Stock on hand, as per inventory		1,819 11	
			67,002 11
Net profit to the department			$ 12,404 84

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TABLE No. X.

DETAILED STATEMENT OF ASSESSOR'S INCREASE AND DECREASE CHECKS FOR THE YEAR 1897.

	INCREASE.				DECREASE.			
1897.	Current Tax.	Back Tax.	Shut-off.	Total.	Current Tax.	Back Tax.	Draw-Back.	Total.
January	$ 8,665 56	$ 41 00	$ 278 88	$ 8,985 44	$ 8,516 30	$ 3,111 64	$ 1,768 78	$ 13,396 72
February	1,773 89	187 50	334 51	2,295 90	2,586 31	2,391 42	231 62	5,209 35
March	3,201 00	376 50	114 38	3,691 88	1,786 00	1,871 19	35 91	3,693 10
April	1,354 88	4 25	97 21	1,456 94	1,173 71	1,095 91	86 25	2,355 87
May	8,147 74	589 89	323 67	9,060 30	6,001 15	3,940 99	3,274 11	13,216 25
June	4,321 60	174 00	80 37	4,575 97	12,440 40	2,720 45	3,403 88	18,564 73
July	21,155 97	2,399 06	1 00	23,556 03	5,213 01	1,285 04	1,328 50	7,826 55
August	15,757 96	3,583 00	112 13	19,453 09	4,052 41	2,208 95	188 60	6,449 96
September	18,552 59	2,863 87	210 50	21,626 96	2,950 57	1,141 26	57 42	4,149 25
October	9,806 02	1,162 03	477 75	11,445 80	1,992 03	787 14	230 40	3,009 57
November	7,144 28	602 25	1,374 85	9,121 33	3,276 68	1,036 80	2,763 01	7,076 49
December	7,545 15	100 25	1,149 14	8,794 54	59,671 66	6,135 71	7,357 25	73,164 62
Total	$ 107,426 59	$12,083 60	$ 4,553 39	$ 124,063 58	$ 109,660 23	$ 27,726 50	$ 20,725 73	$ 158,112 46
1896	90,213 12	6,983 80	4,886 36	102,083 28	155,456 16	41,058 99	23,757 77	220,274 92
				* $ 21,980 30				† $ 62,162 46

*Net gain in increases for 1897	$21,980 30
†Net gain in decreases for 1897	62,162 46
Net gain for 1897	84,142 76

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TABLE NO. XI.

DETAIL OF GENERAL ASSESSMENT FROM MAY, 1897, TO MAY, 1898.

Ward.	Frontage.	Water Closets.	Urinals.	Baths.	Wash Basins.	Ex. Rooms and Persons.	Saloons.	Hose, Trough and Fountain.	Laundries.	Steam Heating and Engine.	Stables.	Miscellaneous.	Total Assessment.
1	$ 20,022 00	$11,547 50	$1,406 00	$ 885 50	$ 5,985 50	$ 6,684 75	$ 2,041 00	$ 550 00	$ 383 75	$ 3,853 75	$ 1,463 00	$ 3,300 50	$ 58,123 25
2	27,941 50	10,313 25	368 00	3,495 00	4,506 00	4,408 75	805 00	2,328 00	112 50	567 25	2,476 00	906 25	58,226 50
3	30,794 50	10,498 00	269 00	3,918 00	4,522 00	5,261 00	616 00	3,575 50	149 00	202 50	1,974 00	885 25	62,664 75
4	39,853 50	13,645 00	261 00	5,691 50	5,244 50	5,141 50	530 00	4,366 00	124 00	373 20	1,997 00	803 00	78,020 20
5	35,380 00	8,119 50	304 00	1,513 00	1,028 00	11,488 00	1,065 00	666 00	69 00	856 00	1,883 00	1,191 75	63,543 25
6	47,224 50	5,323 00	206 00	964 00	942 00	8,377 50	1,514 00	788 00	59 00	659 50	1,791 50	1,161 25	69,010 25
7	23,823 50	4,711 00	206 00	543 50	939 00	10,725 75	685 00	277 00	78 00	354 00	1,720 00	784 90	44,847 65
8	21,448 00	5,069 50	170 50	603 00	704 50	12,129 50	765 00	391 00	48 50	430 00	1,150 50	756 50	43,666 50
9	29,522 00	7,791 50	245 00	1,741 50	1,218 50	14,105 00	988 00	590 00	93 00	910 00	1,957 50	859 00	60,021 00
10	62,144 00	12,697 00	275 00	5,239 00	2,399 50	13,267 00	1,335 00	2,334 50	63 00	578 00	1,702 00	1,033 00	103,067 00
11	39,323 00	12,048 00	194 00	4,564 50	4,713 50	5,948 50	570 00	2,912 00	149 00	521 30	3,346 50	983 50	75,273 80
12	81,972 00	25,905 00	394 00	13,718 00	8,570 50	8,074 00	960 00	6,211 50	119 00	389 50	3,878 00	1,682 50	151,874 00
13	50,397 50	9,800 50	367 50	4,771 50	2,434 50	6,024 00	780 00	2,545 00	99 00	1,221 50	2,049 00	808 75	81,298 75
14	55,732 50	14,792 50	344 00	5,526 00	2,751 50	13,164 50	755 00	2,770 00	48 00	290 50	2,006 00	987 50	99,118 00
15	67,225 50	10,341 00	373 00	3,534 00	1,901 25	8,308 00	1,250 00	3,707 00	49 00	1,001 00	1,847 75	1,199 25	100,636 75
16	32,942 50	11,068 00	318 00	1,039 00	1,054 00	22,517 00	1,150 00	418 00	216 75	282 50	1,974 25	1,199 50	74,179 50
17	17,591 00	5,832 50	283 00	644 00	995 50	7,327 50	985 00	416 00	117 00	757 00	1,333 00	955 00	37,236 50
18	23,861 50	7,807 00	433 00	2,152 50	2,924 00	4,385 25	1,406 00	865 00	166 00	682 00	1,390 00	1,401 50	47,473 75
19	33,535 00	7,649 00	228 50	2,162 00	1,559 00	10,140 00	1,105 00	547 00	108 00	4,930 00	1,720 00	903 00	64,586 50
20	25,022 50	9,080 00	194 50	3,626 00	1,792 00	7,474 50	609 00	2,168 60	67 00	321 00	1,719 50	759 50	52,833 50
21	33,483 50	11,722 50	253 75	4,873 00	2,818 25	9,449 50	549 00	3,103 00	96 00	242 50	1,698 25	782 75	69,022 00
22	29,157 50	11,246 50	262 00	3,706 50	3,194 50	9,834 00	685 00	2,116 00	57 00	327 00	1,952 00	1,002 00	63,540 00
23	22,791 50	9,419 00	239 00	1,970 00	1,221 50	13,008 75	1,033 00	386 00	142 00	938 50	2,000 00	1,401 50	54,600 75
24	31,247 00	15,382 50	520 00	6,169 00	5,639 00	5,830 50	731 00	2,483 00	119 00	826 20	1,887 00	1,177 00	72,011 20
25	52,280 00	18,342 50	269 00	10,196 00	5,137 50	10,823 00	570 00	11,001 00	144 00	432 50	2,960 50	715 25	112,871 25
26	66,844 50	13,307 75	332 50	4,995 00	2,752 00	10,178 00	1,031 00	7,138 00	124 00	516 75	3,302 75	1,191 25	111,713 50
27	30,600 00	2,470 50	98 50	1,084 50	623 00	1,164 00	425 00	1,736 00	.....	94 00	931 00	272 00	39,498 50
28	26,518 50	2,103 00	46 50	1,709 00	788 00	1,360 00	390 00	651 00	.....	12 00	488 50	208 25	34,269 75
29	35,255 00	4,284 50	293 50	1,380 00	1,080 00	5,501 75	1,285 00	1,025 00	42 00	885 30	2,154 25	979 00	54,165 30
30	95,948 00	15,499 50	372 50	8,450 50	4,704 00	14,275 00	1,755 00	6,977 00	33 25	723 25	3,961 25	1,810 25	154,508 50
31	67,135 50	8,511 50	224 50	5,378 50	3,569 50	5,601 50	469 00	9,021 00	69 00	330 50	2,522 00	905 30	103,787 80
32	66,116 00	26,492 75	179 00	14,221 00	10,182 50	8,353 75	182 00	12,936 00	39 00	895 95	4,067 75	822 50	145,007 20
33	38,538 00	3,723 00	203 50	2,086 00	1,573 00	4,191 50	954 00	1,707 00	26 00	764 50	797 75	585 50	55,149 75
34	75,426 00	13,597 50	416 00	9,065 50	5,082 50	7,557 50	915 00	6,858 00	56 00	1,639 00	1,700 50	861 50	123,175 00
Total	$1,437,077 50	$360,141 75	$10,500 25	$141,616 00	$104,550 50	$292,580 75	$30,878 00	$105,563 50	$3,285 75	$27,856 45	$69,817 00	$35,174 45	$2,619,021 90
1896.	1,419,187 75	345,825 75	9,589 50	136,357 75	102,408 25	279,020 25	27,712 00	106,808 50	3,228 00	34,084 70	68,595 75	34,021 70	2,566,834 90
										Increase for 1897			52,187 00

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TABLE No. XII.

DETAILED STATEMENT OF ASSESSOR'S MISCELLANEOUS RECEIPTS.

1897.	Inspection.	Leak and Waste.	Shut-off.	Sprinkling.	Tug.	Miscellaneous.	Total.
January	$ 133 00	.....	.....	.....	.....	$ 52 50	$ 185 50
February	37 00	.....	.....	.....	.....	.....	37 00
March	16 50	.....	$ 8 69	.....	.....	18 75	43 94
April	.....	.....	2 25	$ 37 50	.....	22 00	61 75
May	287 00	$ 6 75	4 50	1,595 50	$10 00	11 00	1,914 75
June	694 50	9 25	5 75	1,637 50	.....	87 50	2,434 50
July	164 50	9 00	.....	2,050 00	.....	1 80	2,225 30
August	87 50	.....	.....	1,787 50	10 00	11 00	1,896 00
September	45 50	.....	.....	1,550 00	.....	33 25	1,628 75
October	35 50	.....	.....	800 00	10 00	28 88	874 38
November	747 50	.....	.....	229 00	.....	15 08	991 58
December	945 50	.....	.....	85 00	.....	44 88	1,075 38
Total	$3,194 00	$25 00	$21 19	$9,772 00	$30 00	$326 64	$13,368 83

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TABLE No. XIII.

METER MECHANICAL DEPARTMENT.

Number of meters in service December 31, 1896		5,106
Number of meters set in new location during 1897		349
Total number of meters in service during 1897		5,455
Number of meters removed—property assessed, during 1897	38	
Number of meters removed—supply cut off, during 1897	21	
Total number of meters removed permanently, during 1897		59
Total number of meters in use December 31, 1887		5,396
Total number of meters in use December 31, 1896		5,106
Increase in number of meters in use year ending Dec. 31, 1897		290
Number of meters set in new location during 1897		349
Number of meters set replacing others during 1897		130
Total number of meters set during 1897		479
Number of meters in stock January 1, 1897		35
Number of meters bought from manufacturers during 1897		382
Number of meters bought from private parties during 1897		20
Number of meters furnished by private parties during 1897		17
Illinois meters removed and replaced		55
Total number of meters on hand during 1897		509
Total number of meters set during 1897		479
Number of meters on hand January 1, 1898		30
Number of meters repaired during 1897 for which bills were rendered		1,458
Number of meters removed to shop during 1897 for repair and reset		140

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TABLE No. XIV.

NAMES AND SIZES OF WATER METERS IN USE DECEMBER 1, 1897.

MAKE	SIZE										TOTAL
	½-inch	⅝-inch	¾-inch	1-inch	1½-inch	2-inch	3-inch	4-inch	6-inch	10-inch	
Worthington	5	262	402	1,197	960	910	478	82	3		4,249
Thomson		1	16	16	41	27	15	15	7		138
Crown	1	4	67	95	87	108	37	87	19		505
Hersey		1	26	40	72	108	58	50	16		371
Gem						15	8	10	8	2	43
Nash		10	29	34	13						86
Empire				3							3
Westinghouse				1							1
Total	6	278	540	1,386	1,173	1,168	596	194	53	2	5,396

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TABLE No. XV.

SHOWING WATER METERS IN USE AND HOW DISTRIBUTED.

Flats and stores	729
Business houses	997
Residences and apartment buildings	833
Railroads	421
Manufactories	1,106
Breweries	135
Liveries	154
Packing houses	111
Laundries	101
Hotels	220
Office buildings	224
Theatres	24
Miscellaneous	272
Charitable institutions	69
Total	5,396

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TABLE No. XVI.

METER MECHANICAL DEPARTMENT.

INCOME ACCOUNT.

DEBIT.

Stock account, per inventory, January 1, 1897—				
Comprising material	$ 6,748 32			
Bills receivable	4,102 75			
			$ 10,851 07	
Amount paid for meters	$ 21,424 20			
Amount paid for covers	548 50			
Amount paid for couplings				
Amount paid for fittings	2,819 68			
Amount paid for lumber	322 73			
Amount paid for repairs	2,962 90			
			28,078 01	
Amount paid for printing and stationery	$ 99 05			
Amount paid for transportation	156 58			
Amount paid for horse feed, etc	257 00			
Amount paid for tools	20 68			
Amount paid for matches, oil, etc	31 38			
Amount paid for sawdust, nails, etc	23 90			
			588 59	
Salary of superintendent	$ 1,499 93			
Salary of foreman	1,200 00			
Salaries of clerks	1,894 18			
Salaries of meter setters	4,923 00			
Salaries of laborers	1,911 50			
Salaries of expressmen	3,018 00			
			14,446 61	
			$ 53,964 28	
Less—				
Cost of replacing 58 Illinois meters because of their failure to register accurately			3,820 00	
				$ 50,144 28

CREDIT.

Cash received for meters, 2 inches and over		$ 8,579 60		
Cash received for meters under 2 inches	$ 14,941 15			
Less January collections erroneously carried back to December, 1896	267 15			
		14,674 00		
Cash received for repairs to meters	$ 5,351 15			
Less January collections erroneously carried back to December, 1896	315 15			
		5,036 00		
			$ 28,289 60	
Amount due and uncollected for repairs		$ 4,237 26		
Stock on hand as per inventory		5,914 37	10,151 63	
				38,441 23
Net loss of the Department				$ 11,703 05

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TABLE No. XVII.

ANALYSIS OF LEDGER—ASSESSED RATES ACCOUNT.

WARD	DEBIT						CREDIT				
	Balance Jan. 1, 1897	General Assessment	Increases	Refunds	Discounts	Total	Decreases	Discounts	Collections	Balance Dec. 31, 1897	Total
1	$11,506 09	$ 58,123 25	$ 1,915 69	$ 116 06	$ 19 59	$ 71,680 68	$ 9,302 46	$ 5,963 07	$ 41,125 11	$ 15,290 04	$ 71,680 68
2	9,701 57	58,226 50	5,544 42	102 45	17 03	73,591 97	6,357 36	6,390 13	43,347 87	17,496 61	73,591 97
3	4,779 95	62,664 75	6,279 02	167 58	22 67	73,913 97	5,493 60	8,048 17	54,441 92	5,930 28	73,913 97
4	8,714 27	78,020 20	7,894 60	83 33	12 92	94,725 32	5,346 15	9,376 01	60,944 63	19,058 53	94,725 32
5	4,882 61	63,543 25	854 12	46 79	8 21	69,334 98	3,036 83	8,127 33	48,987 41	9,183 41	69,334 98
6	11,092 74	69,010 25	1,229 45	78 31	11 84	81,422 59	4,792 67	8,087 11	51,731 32	16,811 49	81,422 59
7	4,293 00	44,847 65	582 91	59 53	12 22	49,795 31	2,605 76	5,278 93	31,948 10	9,962 52	49,795 31
8	3,721 59	43,666 50	452 12	28 99	4 26	47,873 46	2,224 15	5,201 59	31,712 11	8,735 61	47,873 46
9	6,176 30	60,021 00	1,057 79	45 00	7 46	67,307 55	3,714 06	7,389 11	45,795 07	10,409 31	67,307 55
10	10,261 13	103,067 00	5,565 51	157 36	15 39	119,066 39	4,566 87	12,586 11	80,351 89	21,561 52	119,066 39
11	10,844 49	75,273 80	836 23	176 03	25 47	87,156 02	4,367 67	8,596 93	55,490 75	18,700 67	87,156 02
12	15,763 60	151,874 00	4,640 33	323 29	53 39	172,654 61	7,037 95	17,115 34	109,925 97	38,575 35	172,654 61
13	15,200 59	81,298 75	2,055 17	228 83	36 02	98,819 36	3,841 50	9,090 10	60,606 63	25,281 13	98,819 36
14	7,047 61	99,118 00	4,767 76	194 43	32 02	111,159 82	3,699 94	12,208 41	77,513 03	17,648 44	111,159 82
15	14,737 86	100,636 75	3,196 72	168 34	26 04	118,765 71	5,070 23	11,290 08	75,526 51	26,878 89	118,765 71
16	2,947 13	74,179 50	833 92	92 55	15 30	78,068 40	3,803 63	9,280 31	55,292 51	9,691 95	78,068 40
17	6,136 25	37,236 50	679 76	108 25	19 00	44,179 76	2,423 55	4,376 29	26,958 85	10,421 07	44,179 76
18	11,855 52	47,473 75	3,802 92	39 99	7 01	63,179 19	4,725 86	5,153 17	32,949 02	20,351 14	63,179 19
19	10,786 54	64,586 50	653 11	84 83	14 42	76,125 40	8,690 68	7,092 83	43,835 01	16,506 88	76,125 40
20	3,400 56	52,833 50	986 34	51 78	7 97	57,280 15	1,932 89	7,004 21	41,687 04	6,656 01	57,280 15
21	9,794 38	69,022 00	952 69	87 74	11 76	79,868 57	4,543 68	8,222 85	49,586 75	17,515 29	79,868 57
22	3,024 54	63,540 00	925 26	107 96	15 64	67,613 40	2,433 88	8,355 58	50,178 73	6,645 21	67,613 40
23	3,678 13	54,600 75	551 62	35 93	6 32	58,872 75	3,055 77	7,007 16	41,455 84	7,353 98	58,872 75
24	8,304 51	72,011 20	1,228 78	233 13	40 37	81,817 99	4,104 88	8,334 45	50,189 99	19,188 67	81,817 99
25	5,971 77	112,871 25	6,428 44	237 23	39 27	125,547 96	5,840 60	14,689 99	89,926 10	15,091 27	125,547 96
26	17,016 87	111,713 50	6,920 45	276 83	41 40	135,969 05	6,875 39	13,497 13	89,434 66	26,161 87	135,969 05
27	25,514 21	39,496 50	10,494 76	185 75	14 07	75,707 29	3,529 89	4,193 06	33,582 02	34,402 32	75,707 29
28	10,041 12	34,269 75	6,679 07	93 60	10 15	51,093 69	1,880 72	3,917 46	27,217 52	18,077 99	51,093 69
29	14,760 21	54,165 30	1,220 54	129 55	21 20	70,296 80	3,055 02	5,979 42	38,543 93	22,688 43	70,296 80
30	32,158 48	154,508 50	8,297 39	334 62	50 88	195,349 87	8,364 47	18,275 27	129,850 63	38,859 50	195,349 87
31	37,603 80	103,787 80	5,639 38	349 98	38 40	147,419 36	5,914 71	10,764 50	83,860 06	46,880 09	147,419 36
32	17,363 81	145,007 20	6 435 11	541 70	82 55	169,430 37	5,636 42	17,454 79	115,290 10	31,049 06	169,430 37
33	16,134 25	55,149 75	3,724 56	118 37	16 88	75,143 81	3,442 61	6,288 77	42,574 78	22,837 65	75,143 81
34	38,578 86	123,175 00	11,355 87	383 03	52 57	173,545 33	7,008 04	13,182 02	95,295 61	58,059 66	173,545 33
TOTAL	$413,794 34	$2,619,021 90	$124,681 81	$ 5,469 14	$ 809 69	$3,163,776 88	$158,749 89	$307,907 68	$2,007,157 47	$689,961 84	$3,163,776 88
	*148,857 94					*148,857 94		*15,332 20	*133,525 74		*148,857 94
	$562,652 28	$2,619,021 90	$124,681 81	$ 5,469 14	$ 809 69	$3,312,634 82	$158,749 89	$323,239 88	$2,140,683 21	$689,961 84	$3,312,634 82

*These items represent the amount credited to assessed rates for the month of January, 1897, which were erroneously carried back to December, 1896.

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TABLE No. XVIII.

SHOWING NET COLLECTIONS FROM ALL SOURCES FOR THE YEAR 1897 AS COMPARED WITH 1896.

SOURCES.	1896.	1897.	Increase.	Decrease.	Net Increase.
Assessed rates	$ 1,969,490 80	$ 2,132,205 89	$ 162,715 09		
Meter rates	935,134 11	937,654 61	2,520 50		
Permits	43,345 30	65,605 60	22,260 30		
Plumber licenses	5,510 00			$ 5,510 00	
Assessor's miscellaneous	26,012 25	13,368 83		12,643 42	
Meter mechanical department	24,200 15	28,871 90	4,671 75		
	$ 3,003,692 61	$ 3,177,706 83	$ 192,167 64	$ 18,153 42	$ 174,014 22

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TABLE No. XIX.

DETAILED STATEMENT OF CASH COLLECTED DURING 1897.

(NET.)

1897.	Assessed Rates.	Meter Rates.	Permits.	*Licenses.	Assessor's Miscellaneous.	Meter Mechanical Dept.	TOTAL.
January	$133,525 74	$ 88,150 98	$ 422 60	.....	$ 185 50	$ 582 30	$222,867 12
February	24,057 83	67,942 92	408 80	.....	37 00	555 20	93,001 75
March	13,798 16	81,590 85	1,145 10	.....	43 94	1,093 85	97,671 90
April	21,171 21	67,584 90	1,588 40	....	61 75	1,254 85	91,661 11
May	300,496 70	80,633 06	973 70	.....	1,914 75	724 75	384,742 96
June	587,262 42	68,244 73	2,217 10	....	2,434 50	1,181 40	661,340 15
July	93,072 75	67,774 06	1,221 80	.....	2,225 30	1,556 05	165,849 96
August	33,992 08	84,085 91	1,503 60	.. ..	1,896 00	1,127 25	121,604 84
September	33,261 82	82,867 97	1,610 70	.....	1,628 75	2,035 50	121,404 74
October	30,562 25	83,923 16	1,337 30	....	374 38	1,790 50	118,492 59
November	271,233 90	75,223 03	1,168 30	.....	991 58	4,547 20	353,164 01
December	590,771 03	89,628 04	618 30	.....	1,075 38	3,843 45	685,936 20
TOTAL	$2,132,205 89	$987,654 61	$ 14,215 70	.....	$13,868 83	$20,292 30	$3,117,787 33

*No comparison for licenses can be made for this year as Plumbers' licenses are collected through the City Collector's office.

In addition to the above there has been collected:

By the Cashier, Department of Public Works on account of large meters set during 1897	$ 8,579 60
By the Special Assessment Department for ferrules on street improvements	51,389 90
Grand total	$3,177,706 83

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TABLE No. XX.

WATER OFFICE — DETAILED STATEMENT OF PAY ROLLS FOR THE YEAR ENDING DECEMBER 31, 1897.

DEPARTMENTS.	Assessor's.	Collection.	Inspection.	Meter Rates.	Meter Mechanical	Permit.	Shut-off.	Total.
January	$ 1,895 63	$ 3,891 63	$ 3,550 10	$ 2,005 50	$ 1,188 00	$ 3,464 75	$ 2,452 12	$ 18,442 67
February	1,920 96	3,890 05	3,650 23	1,894 50	1,125 00	3,342 75	2,390 62	18,214 11
March	3,887 96	7,758 79	7,312 60	2,628 50	1,494 00	5,404 50	2,959 51	30,935 86
April	2,316 65	5,278 33	4,687 50	2,325 50	1,266 00	3,890 00	2,397 00	22,160 98
May	2,288 95	5,293 09	3,345 80	2,222 04	1,256 93	3,227 60	1,797 75	19,432 16
June	2,298 01	5,537 99	3,065 00	2,185 50	1,162 00	3,282 00	1,683 50	19,114 00
July	2,374 31	3,897 07	4,958 54	2,015 27	1,216 18	3,735 44	2,282 25	20,479 06
August	2,079 81	3,658 58	7,760 08	1,288 54	1,102 50	4,160 52	2,632 50	22,682 53
September	2,248 53	3,930 24	8,375 00	1,502 50	1,188 00	4,061 50	2,880 75	24,181 52
October	2,164 99	4,507 29	6,942 28	2,117 13	1,431 00	3,969 58	2,755 50	23,887 77
November	1,972 15	4,802 99	4,982 50	2,374 50	1,347 00	3,084 00	2,148 00	20,661 14
December	2,373 36	5,815 98	4,887 46	2,728 50	1,678 00	3,285 28	2,340 00	23,008 58
Total	$27,331 81	$58,256 97	$68,417 09	$25,282 96	$15,489 61	$44,807 92	$28,669 50	$268,145 38
1896	28,880 58	68,858 94	54,633 38	27,043 00	15,689 50	48,078 04	27,826 25	269,959 69

NOTE: — 25 per cent. of January and February salaries was retained and added to the March pay rolls.

Total of pay rolls for 1896 ... ... $269,959 69
Total of pay rolls for 1897 ... ... 268,145 38
Showing a saving for 1897, of ... $ 6,814 31

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TABLE NO. XXI.

SHOWING DETAILS OF MISCELLANEOUS EXPENSES OF THE WATER OFFICE FOR THE YEAR 1897.

MONTHS.	Binding Vouchers.	Postage.	Railroad Tickets.	Street Car Tickets.	Stationery.	Sundries.	Shut-Off Tools.	Total.
January	.....	$ 600 00	$ 39 80	$ 216 32	$ 171 55	$ 4 55	$ 8 18	$ 1,040 40
February	$29 14	200 00	1 35	216 32	339 80	7 80	63	795 04
March	.....	.....	25 45	220 48	71 60	18 55	.....	336 08
April	.....	700 00	35 80	220 48	43 31	19 60	.....	1,019 19
May	.....	3,000 00	23 30	174 72	46 30	6 88	.....	3,251 20
June	.....	.....	27 32	216 32	112 15	53 70	.....	409 49
July	19 95	.....	45 61	247 52	30 75	34 78	7 65	386 26
August	.....	200 00	30 68	297 44	128 19	232 87	5 78	889 96
September	4 50	.....	8 00	193 44	558 00	30 58	9 45	803 97
October	.....	2,000 00	49 23	251 68	127 50	19 19	20 52	2,468 12
November	2 25	500 00	27 48	292 08	240 91	14 91	.....	1,077 63
December	.....	300 00	30 81	755 50	134 00	325 22	102 14	1,647 67
Total	$55 84	$7,500 00	$344 83	$3,302 30	$1,999 06	$768 63	$154 35	$14,125 01

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TABLE No. XXII.

SHOWING WORK PERFORMED BY THE LEAK, WASTE AND SHUT-OFF DEPARTMENTS.

1897	Leak and Waste Notices Served.	Bills and Shut-off Notices Delivered and Served.	Shut-off for Back Taxes.	Shut-off for Leaks.	Water Turned On.	Charges for Shutting Off Water.	Complaints Investigated.
January.....	90	2,400	128	16	89	$329.87	50
February.....	58	3,364	151	11	68	286.75	54
March.....	232	4,620	72	14	32	131.00	60
April.....	340	4,815	74	22	34	71.00	78
May.....	800	7,144	62	24	36	196.00	100
June	978	14,086	6	15	1	49.50	189
July...	924	30,129	14	18	5	6.00	210
August	800	45,008	74	13	25	107.00	228
September.....	720	6,703	127	19	69	231.50	121
October	500	7,806	368	17	135	498:50	137
November	324	5,240	393	10	168	1,000.00	168
December.....	150	2,620	506	20	207	1,168.25	88
TOTAL.....	5,916	133,985	1,972	199	809	$4,070.37	1,468
1896..... ...	5,838	119,380	3,943	187	2,158	$5,874.00	1,425

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TABLE No. XXIII.

ACCOUNTING DEPARTMENT.

INCOME ACCOUNT.

REVENUE.

General Assessment, May 1, 1897		$ 2,619,021 90	
Increase to back tax account.....		12,083 60	
Increase to current tax account.....		107,426 59	
Increase to shut-off account.....		4,553 39	
			$2,743,085 48
Less—			
Discounts for January, 1897, erroneously carried back to December, 1896.....	$ 15,332 20		
Discounts allowed subsequent to Jan.	307,103 49		
		$ 322,435 69	
Erroneous assessments refunded.....		1,905 88	
Decreased on account of municipal and public buildings		32,013 95	
Decreased account of charitable, educational and religious institutions..		22,126 87	
Decreased account of overpayments, as per affidavits and special examinations, removals, destruction of buildings, changes to meter control and other causes		83,245 91	
Allowance on current bills to cover drawbacks on amounts previously paid on vacant property in accordance with city ordinance passed January 14, 1895.....		20,725 73	482,454 03
Net revenue from assessed rates			$2,260,631 45
Charges, as per meter readings.....	$ 1,021,108 24		
Less—			
January collections erroneously carried back to December, 1896	88,150 98		
Meter readings subsequent to January			932,957 26
Assessor's miscellaneous charges for sprinkling wagons, tugs, skating rinks, etc.....	$ 13,368 83		
Less—			
January collections erroneously carried back to December, 1896.....	185 50	$ 13,183 33	
Less—			
Inspection fees refunded in accordance with ordinance passed Jan. 14, 1895: amended May 10, 1897..		1,116 00	
			12,067 33
Profit to Permit Department.....			12,404 84
Less—			$ 3,218,060 88
Net cost of operating Meter Mechanical Department.....			11,703 05
See Table No. XVI.			$ 3,206,357 83

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EXPENSES.

Binding vouchers		$ 55 84	
Postage		7,500 00	
Railroad transportation		344 83	
Street car tickets		3,302 30	
Printing and stationery		1,999 06	
Shut-off tools, etc.		154 35	
Miscellaneous		768 63	
Pay rolls (Meter Mechanical and Permit Departments omitted)		202,897 85	
			$ 217,022 86
Net income Bureau of Water			$ 2,989,334 97
Net income for 1896 was shown to have been		$ 2,956,965 99	
From which deduct amount erroneously carried back to December, 1896, viz:			
January, 1897, collections	$ 222,867 12		
January, 1897, discounts	15,332 20		
		238,199 32	
Actual net income for 1896			2,718,766 67
Increase for 1897			$ 270,568 30

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TABLE No. XXIV.

BALANCE SHEET.

DEBIT.

Balance uncollected assessed rates, as per annual report for 1896		$ 413,794	34
January, 1897, collections account of assessed rates erroneously carried back to December, 1896	$ 133,525 74		
Discounts on same also erroneously carried back to December, 1896	15,332 20		
		148,857	94
Collections for January, 1897, from the following sources, erroneously carried back to December, 1896:			
Meter rates	$ 88,150 98		
Permits	422 60		
Assessor's miscellaneous	185 50		
Meter Mechanical	582 30		
		89,341	38
Meter rates as shown by annual report for 1896	$ 70,206 74		
To which add amount not accounted for	61,682 56		
Actual amount uncollected, as per meter ledgers, December 31, 1896		131,889	30
Inventory, Meter Mechanical Department, December 31, 1896:			
Merchandise on hand	$ 6,748 32		
Bills receivable	4,102 75		
		10,851	07
Inventory, Permit Department, December 31, 1896		4,015	90
Cash from Comptroller in 1897 for merchandise		29,338	72
Cash from Comptroller in 1897 for expenses		281,378	72
Net income 1897, as per income account		2,989,334	97

CREDIT.

January collections erroneously carried back to December, 1896	$ 222,867	12
Debit balance against Comptroller, December 31, 1897	2,894,870	21
Amount charged Cashier, Department of Public Works	8,579	60
Amount charged Special Assessment Department	51,389	90
Inventory, Meter Mechanical Department	5,914	37
Inventory, Permit Department	1,819	11
Balance uncollected, assessed rates	689,961	84
Balance uncollected meter rates	153,660	37
Balance added to meter rates as a result of checking meter ledgers as of December 31, 1896	61,682	56
Balance uncollected, meter repairs	4,237	26
Cost of replacing 58 Illinois meters	3,820	00
	$4,098,802 34	$4,098,802 34

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TABLE No. XXV.

MAKING A COMPARISON OF DISCOUNTS, COLLECTIONS, TOTAL CREDITS TO ASSESSED RATES AND PER CENT. OF DISCOUNTS TO TOTAL CREDITS TO ASSESSED RATES FOR 1896 AND 1897.

MONTHS.	DISCOUNTS.				WARD COLLECTIONS.		TOTAL CREDIT TO WARDS.		PER CENT. OF DISCOUNT TO TOTAL CREDITS TO ASSESSED RATES.			
	1896.	1897.	Increase.	Decrease.	1896.	1897.	1896.	1897.	1896.	1897.	Increase.	Decrease.
January	$ 1,381.34	$ 15,332.20	$ 13,950.86	.....	$ 35,379.90	$ 33,535.74	$ 36,761.24	$148,857.94	.0276+	.1023+	.0647	.....
February	643.62	731.24	87.62	.....	24,306.66	24,057.83	24,950.28	24,789.07	.0256+	.0295—	.0039	.....
March	716.37	475.82	.....	240.55	31,105.92	15,814.61	31,822.29	16,290.43	.0225+	.0292+	.0067	.....
April	537.58	1,874.70	1,337.12	.....	20,717.93	21,172.21	21,255.51	23,046.91	.0253—	.0813+	.0560	.....
May	61,677.43	50,633.41	.....	11,044.02	369,744.93	300,744.83	431,422.36	351,378.24	.1429+	.1441+	.0012	.....
June	83,794.44	99,076.15	15,281.71	.....	497,718.75	588,045.73	581,513.19	687,121.88	.1441—	.1442—	.0001	.....
July	14,372.98	11,676.31	.....	2,696.67	114,687.37	93,898.77	129,060.35	105,575.08	.1113+	.1106—	.....	.0007
August	1,645.47	804.23	.....	841.24	45,193.01	33,488.54	46,838.48	34,292.77	.0355+	.0234+	.....	.0121
September	937.52	518 33	.....	419.19	24,177.69	33,399.54	25,115.21	33,917.87	.0373+	.0152+	.....	.0221
October	1,427.39	876.08	.....	551.31	23,787.93	30,596.08	24,165.32	31,472.16	.0590+	.0278+	.....	.0312
November	50,966.06	43,916.21	.....	7,049.85	300,439.34	272,247.16	351,405.40	316,163.37	.1450+	.1389+	.....	.0061
December	82,338.22	97,335.10	14,996.88	.....	495,764.48	593,692.07	578,102.70	691,017,17	.1424+	.1408	.....	.0016
Total	$300,438.42	$323,239.78	$ 22,801.36	.....	$1,981,973.91	$2,140,688.11	$2,282,412.33	$2,463,922.89	.13163	.13118		

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TABLE No. XXVI

SHOWING A COMPARISON OF GENERAL ASSESSMENT FOR THE YEARS 1895-1896-1897.

	1895	1896	1897
Frontage	$ 1,343,042 00	$ 1,419,187 75	$ 1,437,077 50
Water closets	321,287 00	345,825 75	360,141 75
Urinals	9,457 00	9,589 50	10,500 25
Baths	120,823 00	136,357 75	141,616 00
Wash basins	93,269 75	102,408 25	104,550 50
Extra rooms and persons	257,759 50	279,020 25	292,580 75
Saloons	27,757 00	27,712 00	30,878 00
Hose, trough and fountains	75,773 00	106,808 50	105,563 50
Laundries	4,389 25	3,228 00	3,265 75
Steam heating and engines	36,878 00	34,084 70	27,856 45
Stables	68,329 50	68,595 75	69,817 00
Miscellaneous	33,925 90	34,021 70	35,174 45
Total	$ 2,392,640 90	$ 2,566,834 90	$ 2,619,021 90

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TABLE No. XXVII.

SHOWING RECEIPTS AND EXPENSES, AND PER CENT OF EXPENSES TO COLLECTIONS, FOR THE YEARS 1891 TO 1897, INCLUSIVE.

Year.	Receipts.	Expenses.	Per Cent.
1891	$ 2,331,286 20	$ 303,879 86	13
1892	2,592,111 67	336,956 79	13
1893	2,837,827 35	294,968 60	10 4/10
1894	3,010,259 92	287,306 92	9 5/10
1895	3,215,137 10	309,273 30	9 5/10
1896	3,003,692 61	288,497 34	9 6/10
1897	3,177,706 83	281,246 82	8 8/10

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TABLE No. XXVIII.

MAKING A COMPARISON OF METER RATES IN SOME OF THE LARGE CITIES; ALSO SHOWING AMOUNT OF TAX AGAINST AN EIGHT-ROOM TWO-STORY DWELLING, SUPPLIED WITH BATH, CLOSET, WASH-BASIN, KITCHEN SINK, LAUNDRY TUBS, AND HOSE FOR SPRINKLING PURPOSES.

Name of Cities.	Meter Rates per 1,000 Gallons.	Water Tax for the Average Eight-room Residence.
Boston	.18⅔	$22 00 (e)
Brooklyn	.....	22 00
Cincinnati	.15	20 25
Kansas City	.36	26 50
Milwaukee	.20	24 50
New York	.13½	18 00 (f)
Omaha	.30	.....
Philadelphia	.....	18 00
Pittsburgh	.....	26 50
St. Louis	.30	27 00
Chicago	.10 (a)	18 50
Chicago	.08 (b)	.....
Chicago	.04 (c)	11 50 (d)

(a) Rate for first 165,000 gallons used on one premises in one month.
(b) Rate for all in excess of 165,000 gallons used on one premises for one month.
(c) Rate for all in excess of 5,000,000 gallons used on one premises for one month, after May 1, 1898.
(d) This rate will govern after May 1, 1898, and will permit the use of all fixtures without additional charge.
(e) Sprinkling prohibited unless under meter control.
(f) Sprinkling or use of hose prohibited altogether.

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REPORT OF THE

Bureau of Sewers

CITY OF CHICAGO.

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BUREAU OF SEWERS

HON. LAWRENCE E. McGANN,

Commissioner of Public Works.

DEAR SIR:—I have the honor to submit herewith the Annual Report of the Bureau of Sewers for the year ending December 31st, 1897, being the Twenty-second Annual Report of this Bureau under the Department of Public Works, and the Forty-second yearly statement of the work done in connection with the sewerage of the City.

The amount of money expended in the several branches of the Bureau of Sewers during the year was as follows:

For building sewers and catch basins	$446,249 53
For cleaning sewers and catch basins	91,414 89
For repairing sewers and catch basins	46,764 29
For adjusting to grade manholes and catch basins on streets being improved	43,887 00
For house drains	28,955 62
For appropriated salaries	23,872 09
For office expenses	2,077 30
For pumping stations	33,846 86
Total	$717,067 58

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NEW SEWERS AND CATCH-BASINS BUILT DURING THE YEAR 1897 AND COST OF SAME.

Length in Feet.	Size.	Average Cut.	Average Price per Foot.	Cost.
1,244	9 -inch.	7.0	$0.45½	$ 567 05
91,164	12 "	7.0	.76	69,283 44
48,051	15 "	8.5	.96⅛	46,226 26
642	18 "	13.8	1.61	1,033 50
15,674	2 -foot.	10.5	1.62	25,395 95
3,342	2¼ "	15.8	1.95	6,516 01
8,790	2½ "	12.9	2.34	20,554 18
2,195	2¾ "	17.7	3.65	8,008 00
6,798	3 "	14.5	3.71⅔	25,246 85
1,150	3¼ "	17.1	4.00	4,600 00
6,848	3½ "	13.2	4.04½	27,700 10
2,648	4 "	13.2	4.11⅙	10,887 50
4,597	4½ "	13.6	5.13⅔	23,613 50
27	"	14.3	5.27	142 31
32	5½ "	14.7	5.32½	170 40
27	7 "	16.1	9.55	257 85
48	8 "	17.1	10.50	504 00
5,187	8½ "	17.8	11.50	59,646 27
7,991	9	17.8	12.97	103,613 85
*206,450				$ 433,917 02

*The above includes cost of catch-basins, etc.

TOTAL NUMBER OF MANHOLES AND CATCH-BASINS IN PLACE DECEMBER 31, 1897, IN CITY LIMITS.

	Constructed During the Year.			Total Built During 1897.	Total Built Previous to 1897.	Total in Place December 31, 1897.
Divisions.	South.	West.	North.			
Catch-basins ..	600	800	442	1,842	45,784	47,626
Manholes.....	586	524	440	1,550	48,154	49,704

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SIZE AND LENGTH OF SEWERS CONSTRUCTED IN THE DIFFERENT WARDS IN THE CITY DURING THE YEAR 1897.

WARDS.	9-inch.	12-inch.	15-inch.	18-inch.	2-foot.	2¼-foot.	2½-foot.	2¾-foot.	3-foot.	3¼-foot.	3½-foot.	4-foot.	4½-foot.	5-foot.	5½-foot.	7-foot.	8-foot.	8½-foot.	9-foot.	TOTAL.
10th	140	2,466	623	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,229
12th	.....	895	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	895
13th	.....	2,432	430	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,862
14th	204	4,006	985	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,195
19th	.....	170	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	170
22nd	360	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	360
24th	.....	.....	875	.....	687	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,562
25th	.....	5,774	.....	.....	1,266	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,040
26th	.....	7,655	659	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,314
27th	.....	26,472	23,347	.....	3,817	.....	2,441	.....	2,824	.....	3,370	.....	3,775	27	32	.....	.....	.....	.....	66,105
28th	.....	14,154	5,501	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27	48	5,187	7,991	32,908
29th	.....	1,118	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,118
30th	.....	5,993	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5,993
31st	.....	5,101	2,013	.....	3,260	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10,374
32d	390	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	390
33d	.....	2,881	3,114	.....	1,502	.....	660	.....	989	.....	1,145	.....	.....	.....	.....	.....	.....	.....	.....	10,291
34th	150	12,047	10,504	642	5,142	3,342	5,689	2,195	2,980	1,150	2,333	2,648	822	.....	.....	.....	.....	.....	.....	49,644
Total	1,244	91,164	48,051	642	15,674	3,342	8,790	2,195	6,793	1,150	6,848	2,648	4,597	27	32	27	48	5,187	7,991	206,450

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TOTAL COST FOR THE CONSTRUCTION OF SEWERS AND CATCH-BASINS, AND MAINTAINING SAME, SINCE THE ESTABLISHMENT OF THE SEWERAGE SYSTEM IN 1855 TO JANUARY 1, 1898.

Year.	Lineal feet of Sewers Built.	No. of Catch-Basins Built.	No. of Man-holes Built.	No. of House Drains Put In.	Cost of Cleaning Sewers and Catch-Basins.	Street Intersections and Repairs of Sewers.	Cost of Construction.
Previous to 1861.	283,586	1,174	2,102	2,194	$ 5,619 48	No amts. found on reports.	$ 665,188 46
1861	2,826	18	33	243	1,715 60	$ 2,951 76	3,617 31
1862	15,676	72	66	365	4,897 24	3,024 07	57,036 42
1863	39,605	192	204	536	5,065 40	2,058 11	169,527 38
1864	25,021	189	183	512	9,417 81	4,597 63	87,221 48
1865	29,948	223	168	1,288	13,818 07	7,493 56	137,643 02
1866	48,127	327	271	3,732	28,445 16	7,773 65	225,564 58
1867	89,681	418	555	3,703	26,540 81	9,581 42	416,730 51
1868	47,841	480	293	3,261	26,954 06	11,287 08	197,152 92
1869	139,705	771	928	3,979	26,015 68	7,527 16	654,141 26
1870	78,166	626	468	5,187	21,464 30	10,954 74	258,664 70
1871	50,716	277	357	3,093	17,415 46	42,557 72	153,295 36
1872	47,342	245	341	1,435	21,484 16	16,975 40	173,255 76
1873	146,702	897	1,015	4,691	31,229 27	29,781 97	450,222 90
1874	222,322	1,054	1,474	6,292	36,884 57	21,996 72	587,507 88
1875	120,971	958	789	3,365	32,098 28	28,107 40	342,932 89
1876	15,248	155	75	1,172	29,345 41	19,803 29	79,545 28
1877	64,666	363	431	1,822	35,763 33	16,959 44	291,829 63
1878	88,031	492	603	1,544	25,704 37	19,259 49	37,264 97
1879	145,381	820	1,043	2,953	29,286 67	10,649 69	130,840 50
1880	79,128	271	554	4,196	25,561 48	25,068 11	92,544 08
1881	132,076	548	917	4,810	34,512 15	30,967 89	452,310 06
1882	98,515	792	725	5,677	33,969 35	26,618 05	224,450 16
1883	75,364	835	497	5,963	34,749 74	25,140 81	232,084 88
1884	101,547	751	654	5,957	43,678 03	37,893 29	258,020 91
1885	118,647	796	854	6,325	46,532 18	45,338 02	203,188 03
1886	103,193	734	723	7,441	51,110 46	50,707 64	177,647 24
1887	90,584	756	605	8,100	50,264 65	43,789 60	186,496 98
1888	104,903	816	674	8,152	52,422 41	53,782 97	228,567 57
1889	171,023	1,351	1,190	4,303	61,503 01	63,459 25	350,234 54
Annexed Districts previous to 1890,	993,573	6,102	8,620	Estimated cost of ma	cost of construct intenance not kn	ion, own.	2,614,224 75
1890	379,203	2,986	2,604	9,279	107,873 34	83,388 08	826,718 67
1891	546,918	3,979	3,736	11,312	123,620 44	95,906 75	1,532,990 44
1892	549,258	3,866	3,714	12,562	142,720 52	70,747 88	1,290,017 98
Norwood and Rogers Park annexed previous to 1893	96,697	326	231	No. of hou of constru	se drains and co ction not know	st n.	172,846 30
1893	708,176	4,811	4,825	14,198	132,633 51	114,702 78	1,606,720 09
1894	350,944	2,597	2,259	8,928	154,225 45	130,749 03	1,014,489 86
1895	196,349	1,515	1,409	1,621	134,424 44	93,713 66	356,950 01
1896	303,172	2,201	1,990	6,161	96,901 65	91,339 54	721,869 88
1897	206,450	1,842	1,550	8,241	91,414 89	90,651 29	446,249 53
Totals	*7,107,281	47,626	†49,730	184,593	$1,847,282 78	$1,447,299 89	$18,107,804 07

*Of this amount, 6,531 feet have been taken up and replaced by sewers of larger size, leaving in place January 1, 1898, 7,100,750 feet, or 1,344.^{839} miles.

†Of this amount 26 manholes have been abandoned, leaving in place January 1, 1898, 49,704.

Of the above 1,344.^{839} miles, 514.^{279} are of brick construction and 830.^{560} are of vitrified pipe.

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Length and Interior Diameter of Sewers in Place December 31, 1897, in the Different Wards of the City.

Wards.	6 Inch.	9 Inch.	12 Inch.	15 Inch.	18 Inch.	20 Inch.	23 Inch.	2 Feet.	2¼ Feet.	2½ Feet.	2¾ Feet.	3 Feet.	3¼ Feet.	3½ Feet.	3¾ Feet.	4 Feet.
1st			66,572	1,870				15,210	6,077	17,088		12,327				1,926
2d			42,821	1,320	985			25,369	382	15,280		3,648				670
3d			37,861	5,904	3,720			22,750		14,692		668				670
4th		1,889	43,481	10,462	6,156			28,117		24,784		5,057		916		1,061
5th			50,315	16,249	5,288			34,157		7,020		6,966		1,600		4,180
6th			75,443	37,095	10,128	1,625		54,867		24,672		10,446		1,685		4,975
7th			32,167	3,686				21,572		3,688		4,137		2,958		5,040
8th		242	36,601	4,408				20,085		2,545		1,863		2,328		4,000
9th			40,987	18,726	125			13,013		971		4,214		3,972		4,025
10th		140	175,256	118,675	667			50,481		15,818		12,128		11,088		12,856
11th			45,789	3,925	999			34,093		2,225		1,582				9,541
12th		2,484	150,456	89,443	10,665			81,637		10,725		14,090		10,430		10,260
13th		860	103,070	54,022	4,761			27,930		7,555		9,851	333	9,975		11,950
14th		116	115,889	60,952	4,280			51,178		8,329		4,604	332	3,045		5,217
15th			124,483	115,869	330			60,583		16,776		5,444		1,626		2,399
16th			29,271	9,371				16,778		382		2,265				5,275
17th			21,643	650				35,074				4,315				6,755
18th			41,529					32,845								
19th			42,811	1,114				36,055				1,023				9,890
20th			39,464	13,860	5,010			28,619		7,333		3,168		2,739		3,000
21st			47,213	6,848	1,275			16,900		12,010		515		1,020		2,510
22d			35,182	889	1,526			22,449		7,525		2,179				660
23d			33,146	1,726				25,833		3,841		1,962				3,157
24th			36,071	5,857	661			44,997		1,441		4,531				2,591
25th		47,475	190,186	90,093	20,490	2,604		34,473	4,817	15,074	1,985	11,580		4,810	885	7,591
26th		2,520	168,742	94,995	3,380			37,011		11,192		12,508		11,218		11,965
27th	970		87,067	151,078	433			27,792		8,791		7,614		8,039		10,253
28th			143,270	67,070		3,100		38,397		20,202		14,918				2,336
29th		225	33,840	36,905	12,392	1,800		9,343		6,342		7,023		740		6,380
30th		1,913	173,252	132,932	24,151			47,891		12,117		6,639		7,983		9,440
31st	16,270	33,287	103,226	89,285	13,852	330	261	32,375		21,165		14,711		8,425		7,771
32d		770	90,065	57,447	4,119	520		112,168		5,377		4,726	2,451	6,754		19,917
33d			39,070	38,363	658			19,371		6,302		5,885		5,661		3,970
34th	769	32,927	156,689	95,816	7,559			86,458	8,113	30,510	2,195	6,569	1,372	5,992		11,778
Totals	18,009	124,748	2,652,928	1,435,800	143,560	9,479	261	1,240,891	19,389	341,710	4,180	209,156	3,338	112,993	885	203,509

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Length and Interior Diameter of Sewers in Place December 31, 1897, in the Different Wards of the City—*Concluded.*

Wards.	4½ Feet.	4¾ Feet.	5 Feet.	5½ Feet.	6 Feet.	6½ Feet.	7 Feet.	7½ Feet.	8 Feet.	8½ Feet.	9 Feet.	9½ Feet.	10 Feet.	10½ Feet.	Totals.
1st			247												121,262
2d			4,255		1,480										96,110
3d															86,265
4th	1,261		1,058		704										124,946
5th	2,600		1,360		1,680										131,415
6th	3,532		8,018		3,112	2,132		667							238,395
7th	280		5,750												79,278
8th	3,955														76,017
9th	3,675			2,651							1,625				93,884
10th	6,114		3,380	1,463	8,308	1,380	1,462		5,161		11,636				436,013
11th	18,440						1,988								116,594
12th	4,075			2,556	1,582										390,436
13th	1,995		2,809												235,111
14th	7,080		11,194	1,370	518		2,702	3,972	1,320						281,998
15th			6,828	3,994	7,359		2,125	6,630	3,952						364,258
16th			5,210		1,494										70,046
17th	6,940		6,817		1,396										93,490
18th	4,011		10,775												89,160
19th	10,130		9,305												109,728
20th	2,220														100,413
21st	2,843														91,134
22d	665		2,765												78,880
23d			5,588		753										76,001
24th	2,615		5,537		3,301										107,102
25th	1,335		2,855	2,150											438,408
26th	2,648		11,555	2,362	6,660										376,756
27th	12,133		9,212	12,100	14,685	2,660	7,998								360,825
28th	1,350		1,458		1,532		20,11		5,449	11,875	21,525				388,998
29th	2,650	3,933	7,070		4,780		5,290	667			4,715				143,545
30th	7,812		2,984	2,654	2,685	3,965	4,010		5,389	5,800					451,016
31st	4,116		15,847	3,975	6,552	3,942	4,005								379,345
32d	2,200		1,950												308,564
33d	2,358		1,676	1,488	9,410	3,936									138,148
34th	8,787		5,637	10,214	4,784	1,825	2,656				2,005	4,650	5,300	5,285	496,840
Totals	127,760	3,933	151,130	47,077	82,525	19,340	34,242	11,936	21,221	16,675	47,371	4,650	5,300	5,285	7,100,316

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SEWERS CONSTRUCTED DURING THE YEAR 1897 IN THE WEST DIVISION.

STREET	FROM	TO	Diam. in Feet	Length.
Alley bet. Girard & Elk Grove av.	North avenue	South	¾	204
Adams	Forty-seventh avenue.	Forty-sixth avenue	1	605
Alley bet. Madison & Warren ave.	Kedzie avenue	860 feet west	1	895
Al. bet S Avers av & Douglas blvd.	W. Fourteenth	1st alley north	1	199
Austin avenue	Forty eighth avenue	Forty-seventh avenue.	1¼	665
Austin avenue	Forty-seventh avenue.	Forty-sixth avenue	1	650
Austin avenue	Forty-eighth avenue	Forty-ninth avenue	1¼	657
Austin avenue	Forty-ninth avenue	Fiftieth avenue	1	672
Armitage avenue	N. Forty-eighth ave.	Fiftieth avenue	2	1,687
Armitage avenue	Fiftieth avenue	Grand avenue	1	250
W. Belden avenue	Kimball avenue	Spaulding avenue	1	375
S. S. Central boulevard.	Albany avenue	Whipple	1¼	323
S. S. Central boulevard.	87 ft. N. of S. S. Central blvd.	S. S. of Sacramento sq.	1¼	107
S. S. Central boulevard.	Whipple	10 ft. W. Sacramento av.	1	290
N. S. Cent. Park blv'd.	Albany avenue	Sacramento avenue	1	340
N. S. Cent. Park blv'd.	N. S. Cent. Park ave.	Monticello avenue	1	285
N. S. Cent. Park ave.	McLean avenue	Costello avenue	1¼	640
W. S. Cent. boulevard.	Augusta	50 ft. N. of Grand ave.	1	775
S. S. Cent. boulevard.	St. Louis avenue	Trumbull avenue	1	337
Columbia	Lawndale avenue	C M. & St. P. Ry.	1	388
Cortez	Hoyne avenue	Alley east of Leavitt	1	482
Cornelia	N. Leavitt	Alley W. of Hoyne av.	1	516
Cornelia	Rockwell	Washtenaw avenue	1	640
Cortland	Grand avenue	N. Forty-eighth court.	1¼	405
Cortland	N. Forty-eighth court.	Alley W. of 48th ave.	1	150
Costello avenue	Central Park avenue.	Hancock avenue	1	440
Dickens avenue	Kimball avenue	Ballou	1	440
Dickens avenue	Ballou	Hancock	1	440
Dickens avenue	Lawndale avenue	Hancock avenue	1	1,112
Dickens avenue	Hamlin avenue	Lawndale avenue	1	670
N. S. Douglas blvd.	W. Twenty-second	W. Twenty-third	1¼	623
N. S. Douglas blvd	W. Twenty-third	Boulevard Way	1	930
W. Eighteenth place	Wood	Westward	1	195
W. Erie	Forty-eighth avenue.	1,059 ft. W. of 48th av	1¼	1,059
W. Erie	1,059 ft. W. of 28th av.	Fiftieth avenue	1	270
Forty-third avenue	Division	Haddon avenue	1¼	345
Forty-fifth avenue	Division	Haddon avenue	1¼	360
Forty-fifth avenue	Twelfth	Harrison	¾	7,991
Forty-seventh avenue.	Harrison	Madison	8½	5,187
W. Madison	S. Forty-seventh ave.	Forty-eighth avenue.		
Forty-eighth avenue	W. Madison	Division		
Forty-eighth avenue	48 ft. N. of North ave.	North avenue	8	48
Forty-eighth avenue	27 ft. N. of Grand ave.	Grand avenue	7	27
Forty-eighth court	Courtland	Homer	1¼	335
Forty-eighth court	Homer	Al. S. of Armitage av.	1	150
Fifty-first avenue	Grand avenue	425 feet south	1¼	425
Grand avenue	82 ft. E. of 52d avenue	Fifty-second avenue	5½	32
Grand avenue	27 ft. E. of 56th avenue	Fifty-sixth avenue	5	27
Grand avenue	Fifty-sixth avenue	3,775 ft. W. of 56th av.	4½	3,775
Grand avenue	3,775 ft. W. of 56th av.	Sixty-third avenue	2½	1,110
Grand avenue	Sixty-third avenue	Sixty-eighth avenue	3½	3,870
Grand avenue	Sixty-eighth avenue	Seventieth avenue	3	1,505
Grand avenue	Seventieth avenue	Seventy-second ave.	2	1,525
Haddon avenue	N. Forty-second ave.	N. Forty-sixth avenue.	1	2,565

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WEST DIVISION—CONTINUED.

STREET	FROM	TO	Diam. in Feet	Length.
Hamlin avenue	W. Sixteenth	500 feet north	1	540
Hamlin avenue	McLean avenue	Dickens avenue	1¼	807
Harvard	Forty-seventh avenue	Alley E. of 48th ave	1	498
Harvard	Forty-seventh avenue	Forty-sixth avenue	1	688
Iowa	Hoyne avenue	Alley east of Leavitt	1	482
Indiana	Forty-eighth avenue	Forty-seventh avenue	1¼	665
Indiana	Forty-seventh avenue	Forty-sixth avenue	1	650
N. S. Kinzie	Forty-eighth avenue	Forty-seventh avenue	1¼	665
N. S. Kinzie	Forty-seventh avenue	Forty-sixth avenue	1	650
Lawndale avenue	North avenue	Wabansia avenue	1¼	615
Lawndale avenue	Wabansia avenue	Bloomingdale road	1	665
Lawndale avenue	Hirsch	20 ft. S. of Le Moyne av	1	595
Lawndale avenue	North avenue	Le Moyne avenue	1	517
Leavitt	Rice	Iowa	1	302
Leavitt	Iowa	Cortez	1¼	985
Leavitt	Cortez	Thomas	1	842
Lexington	Forty-seventh avenue	Al. E. of Forty-eighth av	1	478
Lexington	Forty-sixth avenue	Forty-seventh avenue	1	688
N. S. Madison	Forty-seventh avenue	Forty-sixth avenue	1	652
McLean avenue	Sawyer avenue	150 ft. W. of Kedzie av	1	335
Monticello avenue	North avenue	Wabansia avenue	1¼	660
Monticello avenue	Wabansia avenue	Bloomingdale road	1	665
Park avenue	Forty-eighth avenue	Forty-seventh avenue	1¼	660
Park avenue	Forty-seventh avenue	Forty-sixth avenue	1	655
Polk	Forty-seventh avenue	Forty-sixth avenue	1	685
Rockwell	Chicago avenue	180 ft. north	1	180
Springfield avenue	North avenue	Bloomingdale road	1	1,290
E. S. So. West blvd	Twenty-third place	170 ft. south	1	170
Throop	Vernon Park place	North	1	170
Troy avenue	Ohio	Central Park boulevard	1	405
Turner avenue	W. Twenty-sixth	Twenty-seventh	1	632
S. S. W. Twenty-sixth	Ridgeway	107 ft. west	¾	140
Van Buren	Forty-seventh avenue	Forty-sixth avenue	1	685
Wabansia avenue	Lawndale avenue	N. Ridgeway avenue	1¼	330
Wabansia avenue	N. Ridgeway avenue	C. M. & St. P. Ry.	1	182
N. S. Washington	Forty-eighth avenue	Forty-sixth avenue	1	1,310
S. S. Washington	Forty-eighth avenue	Forty-sixth avenue	1	1,310
Total number of feet				68,641

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E

		Length.
		390
		429
		612
		618
		652
	¼	665
		333
		670
	¼	660
		334
		1,004
		634
		301
	1	1,205
	1	484
	1	489
	1¼	402
	2	514
	1¼	799
	1¼	756
	2	661
	1¼	1,321
	1	650
	3½	1,000
	3¼	1,150
	3	2,315
	2¾	1,995
	2½	1,992
	2¼	1,990
	2	1,332
	1½	642
	4½	22
	1	512
	1¼	860
	1¼	1,090
	1	486
	1¼	665
	1	611
	1	665
	1	677
	1	1,324
	1	1,304
	1	280
1...	1	1,120
....	3½	1,145
....	3	989
....	2½	660
.....	2	988
y....	1¼	328

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SOUTH DIVISION—CONTINUED.

STREET	FROM	TO	Diam. in Feet.	Length.
103rd	1704 feet east of Cottage Grove ave. & 550 ft. south of 103rd.	660 feet east of Ericsson avenue	4½	800
103rd	660 ft. E. of Ericsson ave.	I. C. R. R	4	2,648
103rd	I. C. R. R	St. Lawrence avenue		
103rd	St. Lawrence avenue	South Park avenue	3½	1,333
103rd	South Park avenue	675 feet east of Indiana avenue	3	665
103rd	675 ft. E. of Indiana ave.	Indiana avenue	2½	690
105th	I. C. R. R	St. Lawrence avenue	2¾	200
105th	St. Lawrence avenue	450 ft. west South Park avenue	2½	1,787
105th	South Park avenue	Indiana avenue	2	886
107th	I. C. R. R.	South Park avenue	2½	1,220
107th	South Park avenue	Indiana avenue	2¼	1,352
107th	Indiana avenue	Curtis avenue	1¼	325
107th	Curtis avenue	Alley east of Michigan avenue	1	208
111th	State	50 ft. west of Michigan avenue	1	475
112th	State	Perry avenue	1	1,146
112th	Perry avenue	Wentworth avenue	1¼	569
112th	Wentworth avenue	C. & E. I. Ry	1	1,132
118th	Indiana avenue	Curtis avenue	1¼	385
118th	Curtis avenue	Alley east of Michigan avenue	1	207
114th place	Indiana avenue	Curtis avenue	1¼	383
114th place	Curtis avenue	Alley east of Michigan avenue	1	221
115th	Prairie avenue	I. C. R. R.	1¼	1,195
115th	Indiana avenue	Alley east of Michigan avenue	1¼	650
116th	Wentworth avenue	LaSalle	1	250
116th	LaSalle	Perry avenue	1	250
116th	Perry avenue	Alley east of Perry avenue	1	103
117th	Alley east of Halsted	Alley west of Lowe avenue	1	557
118th	Wentworth avenue	LaSalle	1	250
118th	LaSalle	Perry avenue	1	250
118th	Perry avenue	Alley east of Perry avenue	1	103
118th	Alley east of Halsted	Union avenue on north side 118th	1¼	308
118th	Alley east of Halsted	Halsted	1¼	170
119th	Wentworth avenue sewer	East line of Wentworth avenue	1¼	40
119th	East line of Wentworth avenue	LaFayette avenue	2	948
119th	LaFayette avenue	110 feet east	1	140
Paulina	Fifty-first	Fifty-fourth	1	1,960
Perry avenue	119th	148 feet south of 118th	1	486
Prairie avenue	Sixty-seventh	Sixty-ninth	2	1,315
Prospect avenue	Ninety-ninth	100th	1	697
Prospect avenue	100th	101st	1¼	751
Prospect avenue	101st	106th	2	3,260
Prospect avenue	106th	107th	1¼	650
Seipp avenue	Seventy-first	Seventy-second	1	612
Seipp avenue	Seventy-second	Seventy-third	1¼	662
Seventy-first	State	180 ft. east of Vincennes avenue	1	582
Seventy-second	Ingleside avenue	Alley east of Ingleside avenue	¾	150
Seventy-fourth	Stony Island avenue	Alley east of Washington avenue	1	430
Sixtieth	Vernon avenue	30 ft. W. of W. L. of Rhodes av.	1¼	598
Sixty-second	South May	Alley east of May	1	165
Steward avenue	Fifty-ninth	30 feet north of 60th	1	625
Throop	Alley south of Garfield boulevard	P., C. & St. L. Ry	1	1,948
Union avenue	118th	117th	1¼	787
Total number of feet				78,249

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SEWERS CONSTRUCTED DURING THE YEAR 1897 IN THE NORTH DIVISION.

STREET	FROM	TO	Diam. in Feet.	Length.
Alley bet. Hudson & Clevel'd Ave.	Conner	North	¾	176
Alley bet. Hudson & Clevel'd Ave.	Blackhawk	South	¾	184
Ballou	Diversey avenue	Wrigthwood avenue	1¼	1,305
Bernard avenue	Irving Park boulevard.	BellePlaine avenue	1¼	665
Bernard avenue	Belle Plaine avenue	Cullom avenue	1	1,335
Bernard avenue	Cullom avenue	Montrose avenue	1¼	660
Bradley place	Robey	Lincoln	1	646
Byron	N. Hermitage avenue.	Alley E. of Ashland avenue	1	806
Castlewood terrace	Sheridan road	Eastward	1	985
Central Park avenue	Diversey avenue	Wrightwood avenue	1¼	1,338
Central Park avenue	Fullerton avenue	Diversey avenue	1¼	650
Central Park avenue	Dunning	Alley E. of Wrightwood ave.	1	500
Craft	School	Belmont avenue	1	496
Eberly avenue	W. Irving Park blv'd	Belle Plaine avenue	1¼	665
Eberly avenue	Belle Plaine avenue	Cullom avenue	1	1,340
Eberly avenue	Cullom avenue	Montrose avenue	1¼	660
E. Side Lots 47-54 Snow & D. Sub.	Lawrence avenue	La Fayette Park Way	2	348
Fairfield avenue	George	Northern terminal	1	343
Forty-second court	Fullerton avenue	Belding avenue	1	665
Forty-third court	Berteau avenue	Cullom avenue	1	678
Forty-third court	Cullom avenue	Sunnyside avenue	1¼	1,330
Forty-third court	Sunnyside avenue	Wilson avenue	1	691
Forty-fourth avenue	Wilson avenue	Sunnyside avenue	1	692
Forty-fourth avenue	Sunnyside avenue	Avondale avenue	1¼	1,868
Forty-fourth avenue	Irving Park boulevard.	Belle Plaine avenue	1¼	615
Forty-fifth court	Irving Park boulevard.	Prescott	1¼	670
Forty-fifth court	Prescott	Northern terminal	1	670
Fullerton avenue	Fortieth avenue	Forty-second avenue	3	1,319
Fullerton avenue	Forty-second avenue	Forty-fourth avenue	2½	1,331
Fullerton avenue	Forty-fourth avenue	Forty-fifth avenue	1¼	659
Fullerton avenue	Forty-fifth avenue	Forty-sixth avenue	1	669
George	Fairfield avenue	Tallman avenue	1¼	680
Hancock	Diversey avenue	Schubert avenue	1¼	660
Hancock	Schubert avenue	Alley N. of Wrightwood ave	1	490
Hamline avenue	Diversey avenue	Schubert avenue	1¼	647
Hamline avenue	Schubert avenue	Wrightwood avenue	1	708
Hayes	Kimball avenue	295 feet west	1	295
Hood avenue	Southport avenue	Evanston avenue	1	1,329
Kimball avenue	Irving Park boulevard.	Warren avenue	1¼	1,000
Kimball avenue	Warren avenue	Cullom avenue	1	998
Kimball avenue	Cullom avenue	Montrose avenue	1¼	660
Kenesau terrace	Clarenden avenue	Eastward	1	500
Lawndale avenue	Diversey avenue	Schubert avenue	1¼	660
Lawndale avenue	Schubert avenue	309 ft. S. of Schubert ave	1	345
Lawndale avenue	Fullerton avenue	Dunning	1¼	660
Lawndale avenue	Dunning	Wrightwood avenue	1	675
La Fayette Park Way	Sheridan road	995 ft. E. of N. E. cor. Sheridan and La Fayette Park Way	1	998
Leavitt	Sunnyside avenue	Wilson avenue	1	635
Linden avenue	Forty-third avenue	420 ft. E. of Forty-third ave.	1	420
Linden avenue	420 ft. E. of Forty-third Ave.	Montrose avenue	1¼	1,105
Maplewood avenue	Diversey avenue	Elston avenue	1	885
Monticello avenue	Dunning	Alley S. of Waightwood ave.	1	502
Monticello avenue	Fullerton avenue	325 ft. N. of Fullerton ave	1¼	325

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NORTH DIVISION—CONTINUED.

STREET	FROM	TO	Diam. in Feet.	Length.
Monticello avenue	325 ft. N. of Fullerton avenue	Dunning	1¼	329
Paulina	Diversey avenue	Mariana avenue	1¼	659
Paulina	Mariana avenue	Alley N. of Wrightwood ave	1	486
Perry	Pratt avenue	300 ft. N. of Albion avenue	1	1,002
Perry avenue	Albion avenue	305 ft. N. of Devon avenue	1	980
Pensacola avenue	Western avenue	Campbell avenue	1¼	852
Ridgeway avenue	Fullerton avenue	Dunning	1¼	665
Ridgeway avenue	Dunning	Wrightwood avenue	1	680
Ridgeway avenue	Diversey avenue	George	1	640
Ridgeway avenue	Milwaukee avenue	George	1	1,025
Ridgeway avenue	Schubert avenue	300 ft. S. of Schubert avenue	1	338
Schubert avenue	Hamlin avenue	Ridgeway avenue	1	335
Seeley avenue	Adison avenue	Second alley north	1	526
Sherwin avenue	30 ft. E. of C. M. & St. P. R. R.	Alley W. of Sheridan road	1	623
Sherwin avenue	Alley E. of Sheridan Road	Eastward	1	252
South place	Evanston avenue	Magnolia avenue	1	323
Southport avenue	Granville avenue	Glenlake avenue	2	640
Southport avenue	Albion ave on West	Albion avenue on east.	1	268
Tallman avenue	Wellington avenue	80 ft. N. of Diversey ave	1	1,205
North Water	St. Clair	East	2	687
North Water	680 ft. E. of St. Clair	East	1¼	875
Washtenaw avenue	Diversey avenue	George	2	655
Washtenaw avenue	George	Wellington avenue	1¼	675
Wellington avenue	Ashland avenue	Perry	1	629
Western avenue	Winnemac avenue	Foster avenue	1	1,077
W. Side Lots 70-60 Snow & D. Sub.	La Fayette Park Way.	Castlewood terrace	2	288
Wolfram	E. line Western ave.	525 ft. E. of E. line Western ave	1	525
Wrightwood avenue	N. Sawyer	Kimball avenue	1	770
Wrightwood avenue	Central Park avenue	Hamlin avenue	1	1,330
Total number of feet				59,460

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WING SEWERS CONSTRUCTED IN THE NORTH DIVISION DURING THE YEAR 1897.

STREET	FROM	TO	Diam. in Feet.	Length.
Hayes avenue.....	Kimball avenue.....	West.....	1	45
North 44th avenue.....	Irving Park boulevard.	North	1¼	55
Total number of feet.....			....	100

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MANHOLES AND CATCH-BASINS RAISED TO GRADE ON STREETS BEING IMPROVED, WITH COST OF SAME, DURING THE YEAR 1897.

No.	DESCRIPTION OF WORK DONE.	Cement.	Brick.	Iron Covers.	Wood Covers.	Straight Pipe. 9-in.	Straight Pipe. 12-in.	Straight Pipe. 15-in.	Curved Pipe. 9-inch.	Junctions. 9x9.	Junctions. 9x12.	Bottoms.	9-inch Traps.	Cost. Labor and Teaming.	Cost. Material.	TOTAL COST.
2,862 3,746	Manholes raised to grade.. Catch-basins raised to grade	2,525	620,300	657	128	8,174	28	172	78	3	4	4	34	$33,797 57	$10,096 43	$43,887 00

AMOUNT EXPENDED FOR REPAIRS OF SEWERS, MANHOLES AND CATCH-BASINS, ALSO MANHOLE AND CATCH BASIN COVERS, DURING THE YEAR 1897, AS FOLLOWS:

No.	DESCRIPTION OF WORK DONE.	Cement.	Brick.	Iron Covers	Wood Covers.	Straight Pipe.	Curved Pipe.	Junctions.	Traps.	Bottoms.	Lumber. Oak ft.	Lumber. Pine ft.	COST. Labor and Teaming.	COST. Material.	COST. Total Cost
149 330	Manholes repaired..... Catch basins repaired..	670	165,200	105	57	.....	.....	.....	93	31	376	928	$34,059 55	$12,704 74	$46,764 29
234	Feet of 6-in. drains repaired .	6	.....	.....	.....	116	22	.....	.....	.....	.....	.....			
4,312	Feet of 9-in. drains repaired .	91	.....	.....	.....	2,854	250	6	.....	.....	.....	.....			
703	Feet of 12-in. drains repaired.	20	.....	.....	.....	360	20	31	.....	.....	.....	.....			
1,021	Feet of 15-in. drains repaired.	35	.....	.....	.....	657	5	15	.....	.....	.....	.....			
141	Feet of 18-in. drains repaired.	12	.....	.....	.....	50	.....	2	.....	.....	.....	.....			
329	Feet of 2-ft. sewer repaired...	90	23,900	.....	.....	.....	.....	.....	.....	.....	.....	.....			
103	Feet of 3-ft. sewer repaired...	41	11,500	.....	.....	.....	.....	.....	.....	.....	.....	.....			
42	Feet of 5-ft. sewer repaired...	43	10,300	.....	.....	.....	.....	.....	.....	.....	.....	.....			
39	Feet of 6-ft. sewer repaired...	40	12,900	.....	.....	.....	.....	.....	.....	.....	.....	.....			

	Iron Pans.	Cement.	Brick.	Iron Covers.	Wood Covers.	Iron Lids.	Wood Lids.	Manhole and C.-B. Tops.	Iron Grates.
Manhole and Catch-Basin Covers repaired.....	6	59	7,000	245	523	259	3,848	59	21

NEW CATCH BASINS BUILT BY CITY DURING YEAR 1897.

No.	REMARKS.	Cement.	Brick.	Covers. Iron.	Covers. Wood	Str'ght Pipe. 9-in.	Str'ght Pipe. 12-in.	Curved Pipe, 9-inch.	Junctions. 9x9.	Junctions. 9x12.	Traps.	Bottoms	COST. Labor and Teaming.	COST. Material.	COST. Total Cost.
45	North Side.....	691	205,200	211	9	4,840	13	172	4	37	215	215	$7,886 88	$4,445 63	$12,332 51
108	South Side.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....			
67	West Side.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....			
220	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Average cost per basin.....		$56 00

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SEWERS AND CATCH BASINS CLEANED IN THE THREE DIVISIONS OF THE CITY DURING THE YEAR 1897.

METHOD.	South Division.		West Division.		North Division.		Total.		Average Cost per 100 feet.
	Feet Cleaned.	Cost.	Feet Cleaned.	Cost.	Feet Cleaned.	Cost.	Feet Cleaned.	Cost.	
Flushing	422,386	$ 4,952 90	252,963	$2,633 36	204,662	$ 2,656 62	879,843	$10,242 48	$1 16
Iron Scraper	354,560	18,691 39	25,225	1,545 29	31,465	4,001 66	411,250	24,238 34	5 90
Wood Scraper	47,824	732 09	247,587	4,061 45	56,660	2,218 71	352,071	7,012 09	2 00
Total	824,770	$24,376 38	525,775	$8,240 10	292,619	$8,876 83	1,643,164	$41,493 31	
Opening Inlets to Catch-basins, attending complaints, etc								3,994 17	
Total								$	

	No. of.	Cost.	No. of.	Cost.	No. of.	Cost.	Total No. of.	Cost.	Average Cost per Basin.
Catch-basins Cleaned	5,637	$20,556 45	3,332	$9,529 06	2,987	$8,862 16	11,956	$38,947 67	$3 26
Cost of Cleaning Sewers and Catch-basins								$84,435 15	
Miscellaneous Bills for Repairs of Tools, Supplies, and dredging Slip A								6,979 74	
Total Cost of Cleaning Sewers and Catch-basins								$91,414 89	

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RECEIPTS IN HOUSE DRAIN DEPARTMENT DURING THE YEAR 1897.

DIVISION.	Permits Issued.								Net receipts.
	Permits.	Assessments.	Junctions. 6-in.	Junctions. 9-in.	Junctions. 12-in.	Permit rebates.	Assessment rebates.	Junction rebates.	
North	856	94	84	15	..	17	4	..	$ 4,445 00
South	1,611	274	107	31	4	25	8	7	8,636 00
West	1,625	405	19	16	2	20	1	8	8,564 00
Totals	4,092	773	160	62	6	62	8	10	$21,645 00
Receipts sundry inspections									37 39
Receipts drain layers' licenses									1,370 00
Receipts from special assessments									35,595 49
Total receipts									$58,647 88

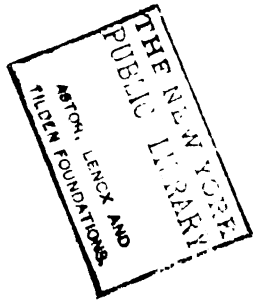
NUMBER OF HOUSE DRAINS PUT IN PLACE DURING THE YEAR 1897 UNDER SPECIAL ASSESSMENT.

DIVISION.	Total number of drains.	Total length of drains.	Total cost.	Average cost per drain.	Average length drain in feet.	Average cost per foot in cents.
West	4,329	114,332	$ 21,218 95	$ 4 90	26.41	18.55
South	3,029	82,985	16,896 28	5 38	27.22	19.76
North	863	24,874	4,316 97	5 00	28.82	17.35
Totals	8,241	222,191	$ 41,932 20	$ 5 08	26.96	18.84

Making a total of 42.08 miles of six (6) drains laid by contract and paid for by special assessment.

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Plan showing location of concrete Standard


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RECEIPT

DIVISIO	
North.....	
South	
West	
Totals .	

NUMBER

DIVISIO	
West	
South	
North	
Totals...	

Making a assessment.

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During the year the Sixty-ninth street pumping station was remodeled and put in first-class condition. Extensive repairs were made upon the plants at Seventieth, Seventy-third and Sixty-third streets; pumps and boilers being overhauled and put in the best of condition.

During the past year the Forty-eighth avenue system of sewers and the Indiana avenue low level system of sewers were completed.

During the latter part of 1897 a plan has been prepared under the direction of the Board of Local Improvements combining all proposed drainage plans for all territory not otherwise provided with drainage, lying south of Seventy-fifth street and east of Halsted street, into one system, known as the Ninety-fifth street low level system. This system embraces 10,800 acres, and it is proposed to drain the same through 24 miles of brick outfall sewers, ranging in size from 13 feet to 2 feet in diameter, with a pumping station at or near the Calumet River and Ninety-fifth street.

There has been a great deal of complaint on account of the inadequate sewers in the Auburn Park district. The old Town of Lake assessed this district for a separate system of small sewers designed to convey to the pumping works at Sixty-ninth and Peoria street only the house sewage and roof water. As no other provision was made to dispose of the storm water, a great deal of it was let into the sewers, thereby overloading the pumps and causing the sewage to flow back into the basements of houses in the lower part of the district. The only remedy is to drain this district into the proposed Ninety-fifth street low level sewer. There are about 400 acres lying north of Seventy-ninth street and east of Morgan street where the small lateral sewers have been laid, and about 600 acres more where the property has been assessed for the pumping works and outfall sewer. All of this property will have to be drained into the proposed Ninety-fifth street sewer and assessed in accordance with the benefits derived.

A careful investigation of the system of sewers in Woodlawn shows that since annexation it has cost the City of Chicago more money to repair the present sewers constructed in the territory bounded by Stony Island avenue, Cottage Grove avenue, Sixtieth street and Sixty-seventh street than it has to repair all the balance of the sewers in the whole City of Chicago. The sewers in this territory are entirely inadequate to do the work required. They were laid years before the World's Fair, and before anyone thought that this territory would be settled with the hundreds of enormous flat buildings and handsome residences that at present occupy the same. In

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many instances sewers were laid by real estate agents, whose only idea seemed to be to put themselves in a position to assert truthfully that the property they wish to sell was provided with drainage. Material in many cases was faulty, workmanship not the best, and I predict that within the next five years practically the whole system will have to be rebuilt.

In regard to the system at present in vogue for the cleaning of our sewers, permit me to state that I have spent a great deal of time in studying this question, and am satisfied that unless a large amount of money is expended, the present system is as good as any devised. I would propose the construction, in the down town district, of intermittent flushing tanks, at least at the summit of all sewers and in a great number of cases at each street intersection. These flushing tanks work intermittently and automatically, require little attention and keep the main sewers continually flushed and clean. They have been tried in many cities and have proved to be an unqualified success. This city has experimented with these tanks and has some sixty in number at present in actual operation. They all give the most unqualified satisfaction. I would advocate the expenditure of at least $50,000 in constructing some 1,000 of these tanks as soon as the money can be obtained. When this is done I am confident that the sewer system in the down town district can be kept clean at all times, and it will do away with the unsightly water wagons and the need for the cleaning gangs to work on the busy thoughfares of the down town district.

After the most careful investigation of the systems in vogue in all the leading cities of the United States, I have been unable to learn of any scheme in successful operation in any city which gives the satisfaction and results as does the present method of cleaning sewers by the chain and scraper: with the exception I have noted.

During the past few months the department has started to construct permanent bench marks. Under the Revised Ordinances of 1897, the Bureau of Sewers is held responsible for grades. The matter of permanent bench marks is of the utmost importance; the benches at present used show a serious and continually increasing difference.

These benches have been placed by different engineers at different times and are supposed to refer to City datum, which datum as legally established, refers to the low water of 1847. The best of these have heretofore been placed on the water tables of brick buildings or on any supposed permanent structure and have all referred to the same datum plane. They should agree closely with one another, but it has been found that they do not agree; that the difference between

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some of them is as much as six inches. The report made in 1895 in connection with these benches recommends the building of special bench monuments, detached from any building, of no weight to cause sinking after construction and reaching below the action of frost. They should be placed in ground controlled by the City, and that exact levels should be run establishing the elevation by a point on the top of each monument. That recommendation was accepted in the new municipal code adopted in 1897, and in the succeeding October and November the Bureau of Sewers caused fifty such monuments to be put in the ground at points about one mile apart, in the territory bounded on the north by Belmont avenue, on the west by Fortieth avenue, on the south by Thirty-ninth street, and on the east by Lake Michigan. These monuments are located in the different parks where possible, and along the boulevards; they are placed in the area or parkway space between the sidewalks and street curbs, and no permits will be granted for use of any sidewalk space that will interfere with or destroy them. They are of the best concrete formation, 16 inches square at the top, 42 inches square at the bottom, and 6 feet from top to bottom of concrete. In the center of the top of the concrete is set a hardened copper rod, ½ inch in diameter, 2 feet long and upset at the bottom; the top of the rod is conic, 1-16 of an inch above the concrete. An iron cover 8 inches square inside, 16 inches square and the flange bottom is set thereon, covering and protecting the copper point on which the elevation of the bench is to be established; the top of this cover is 7 inches above the copper point and comes just level with the street curb and shows in grass plat or surface 10 inches by 11½ inches; the lid is locked by self-acting weight, for which any civil engineer or surveyor can have the key. It has been deemed advisable to let the monuments stand this winter and not begin the level work on them until the spring of 1898. It is intended to take the old Lind Block Bench for these exact levels.

In conclusion, allow me to acknowledge my obligations to you, and to all other officers of the various departments, for the uniform courtesy and assistance extended to me in the discharge of the duties of this office.

The loyal support of my assistants in the several departments of this Bureau has made it possible for me to carry out your instructions and thereby render acceptable service to the public.

Respectfully submitted,

F. E. DAVIDSON,
Superintendent of Sewers.

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REPORT OF THE

Bureau of Streets

CITY OF CHICAGO

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BUREAU OF STREETS.

HON. LAWRENCE E. McGANN,
Commissioner of Public Works.

DEAR SIR: In conformity with the usual custom, I respectfully submit herewith the Twenty-Second Annual Report of the Bureau of Streets, for the year ending December 31, 1897.

Considering the conditions under which this Bureau had to work during the past year, I think a careful review of the work done by the several departments will show a substantial advance.

FINANCIAL STATEMENT.

Amount paid contractors for street improvements by special assessments	$1,284,709 05
For sidewalks built by the Bureau under special assessment	50,799 30
For repaving and repairing improved streets	170,041 71
For grading, ditching, building and repairing aprons, culverts, crossings, etc., on unimproved streets	121,122 09
For sidewalk general repairs and intersections	65,952 58
For city parks	9,293 39
For new and repaired street lamps and signs	49,018 07
GRAND TOTAL	$1,750,936 19

STREET AND ALLEY IMPROVEMENTS.

In addition to attending to the work under construction, sixteen lettings were prepared and advertised, and contracts for twenty-five alleys and 133 streets awarded; twenty-one surveys for the opening or widening of alleys and streets were made, and 213 preliminary estimates were returned to the Bureau of Special Assessments.

Of the 56.04 miles of pavements laid during 1897, cedar block was 42 per cent; asphalt, 15.5 per cent; granite, 0.9 per cent; macadam, 27.7 per cent, and brick, 10.9 per cent. During the past five years the percentages of cedar block and macadam pavements laid have been decreasing; that of granite has been about the same, while those of asphalt and brick are three and eleven times as great, respectively, as in 1893.

Among the most important improvements during the year are the asphalt pavements on Clark street, from Kinzie to Division; Milwaukee avenue, from Ashland avenue to North avenue, and Cottage Grove avenue, from Twenty-second street to Thirty-ninth street, and the brick pavements on North avenue, from La Salle avenue to Clybourn avenue, and Ogden avenue, from Washington boulevard to Twelfth street.

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The following tables show the progress of alley and street

ALLEYS IMPROVED

NAME.	FROM	TO	Commenced.
Alleys, all.....	Halsted to Green...	Randolph and Washington	April 9, 1897
Alleys, all.....	Girard to Lincoln.....	North and Elk Grove aves.	Oct. 7, 1897
Alley, E. & W....	Talman avenue, 358 ft. W.	Park av. and Washington blvd....	Sept. 1, 1897
Alley	Fortieth to Forty-first....	Vincennes and Langley avenues...	May 21, 1897
Alley	42nd to 43rd	Vincennes and Grand blvd	April 2, 1897
Alley	45th to 45th place.....	Vincennes and Grand blvd	May 1, 1897
Alley	Thirty-ninth to Fortieth..	State and Dearborn.....	June 25, 1897
Alley	43rd to 43rd place.....	Emerald av. and Halsted.	June 21, 1897
Alley	43rd place to 44th.....	Wallace and Union ...	June 1, 1897
Alley	Forty-fourth to Forty-fifth.	Wallace and Lowe.....	June 14, 1897
*Alley	Dearborn to Clark... ...	Washington and Madison	Dec. 1, 1897
*Alley	Monroe, 214 feet S	Michigan and Wabash...	Nov. 1, 1897
Alley	Polk, 400 feet S....	Clark and Pacific avenue.	June 27, 1897
*Alley, First E. W., S. of 12th	Wabash, W. and N. to Twelfth ...	.....	Sept. 20, 1897
*Alley	21st to 22nd.....	Prairie and Calumet.....	Aug. 1, 1897
Alley	Twenty-ninth to Thirtieth	Canal and Butler	June 23, 1897
Alley	Thirty-first to Thirty-third	Armour and LaSalle.....	July 8, 1897
Alley, N. & S....	Aldine square, E. & W...	Vincennes and Rhodes...	April 26, 1897
Alley, First S. of 35th	Rhodes to Vernon.....	35th and 37th.....	April 26, 1897
Alley	Blackhawk to Connors...	Cleveland and Hudson...	Aug. 19, 1897
Alley	Elm to Hobbie.....	Larrabee and Gault	July 1, 1897
Alley	Ashland to Laflin.....	Edgemont and Twelfth..	April 1, 1897
Alley	Congress to Harrison.....	Morgan and Sangamon...	Aug. 1, 1897
Alley	Flournoy to Taylor.....	Claremont and Oakley...	Sept. 10, 1897
Alley	Throop to Loomis	Jackson blvd. and Van Buren ...	July 30, 1897
*Alley	Twelfth to Thirteenth....	Avers and Douglas blvd..	Mar. 31, 1897
*Alley	Twelfth to Thirteenth....	Avers and Springfield....	Mar. 31, 1897
*Alley	Twelfth to Thirteenth....	Springfield and Harding.	Mar. 31, 1897
*Alley	Twelfth to Thirteenth....	Harding and Fortieth av.	Mar. 31, 1897
*Alley	Thirteenth to Fourteenth.	Harding and Fortieth av.	Mar. 31, 1897
*Alley	Thirteenth to Fourteenth.	Harding and Springfield..	Mar. 31, 1897
*Alley	Thirteenth to Fourteenth.	Springfield and Avers ...	Mar. 31, 1897
*Alley	Thirteenth to Fourteenth.	Avers and Douglas blvd..	Mar. 31, 1897
Alley	Union to Jefferson.....	Fourteenth and Liberty..	June 25, 1897
*Alley	Van Buren to Congress...	Jefferson and Clinton....	Aug. 30, 1897

* Private Contract.

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improvements, and the character of pavements laid:

DURING 1897.

Finished.	CONTRACTOR.	Nature of Improvement.	Square Yards.	Lineal Feet.
May 18, 1897	O. Vider	Cedar	1,241	650
Oct. 31, 1897	Henry Rath	"	1,435	873
Sept. 8, 1897	Naugle, Holcomb & Co.	"	398	358
May 21, 1897	O. Vider	"	2,193	1,152
May 1, 1897	R. F. Conway	"	1,445	844
May 21, 1897	O. Vider	"	1,406	844
June 30, 1897	R. F. Conway	"	884	595
June 25, 1897	R. F. Conway	"	626	438
June 22, 1897	R. F. Conway	"	771	496
June 18, 1897	R. F. Conway	"	1,005	627
Dec. 4, 1897	J. McCarthy	Granite	791	356
Nov. 4, 1897	Dillon & Conlan	"	428	214
July 31, 1897	Bermudez Asphalt Co.	Asphalt	422	400
Sept. 30, 1897	Dillon & Conlan	Granite	290	180
		Cedar	270	170
Aug. 8, 1897	Dillon & Conlan	Granite	880	440
June 26, 1897	R. F. Conway	Cedar	1,010	598
July 18, 1897	Henry Rath	"	2,330	2,388
April 30, 1897	O. Vider	"	244	110
May 10, 1897	O. Vider	"	434	280
Sept. 21, 1897	Smith, Moss & Brown	"	1,310	867
July 11, 1897	O. Vider	"	617	365
June 1, 1897	O. Vider	"	1,422	765
Nov. 20, 1897	Naugle, Holcomb & Co.	"	609	366
Oct. 9, 1897	R. F. Conway	"	2,348	1,409
Aug. 12, 1897	Wm. Carden	"	1,167	618
Nov. 20, 1897	Brownell Imp. Co.	Macadam	1,356	763
Nov. 20, 1897	Brownell Imp. Co.	"	1,340	754
Nov. 20, 1897	Brownell Imp. Co.	"	1,340	754
Nov. 20, 1897	Brownell Imp. Co.	"	1,340	754
Nov. 20, 1897	Brownell Imp. Co.	"	1,099	618
Nov. 20, 1897	Brownell Imp. Co.	"	1,099	618
Nov. 20, 1897	Brownell Imp. Co.	"	1,099	618
Nov. 20, 1897	Brownell Imp. Co.	"	1,173	660
July 12, 1897	Jno V. McAdam & Son.	Cedar	865	820
Sept. 30, 1897	Western Electric Co.	Brick	733	400

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STREETS IMPROVED

NAME.	BETWEEN	TO	Commenced.
*Aberdeen	Fifty-fourth	Fifty-fifth	Aug. 20, 1897
Argyle	Clark	Evanston avenue	June 10, 1897
*Ashland avenue	Winnemac avenue	Carmen avenue	
Ashland avenue	Twenty-second	S. Branch	Aug. 1, 1897
Augusta	Elston avenue	Milwaukee avenue	Sept. 9, 1897
Augusta	Robey	Leavitt	Aug. 24, 1897
Augusta	Campbell avenue	California avenue	July 15, 1897
Avers avenue	Grand avenue	North avenue	Aug. 12, 1897
*Avers avenue	Twelfth	Fourteenth	March 31, 1897
Balmoral avenue	Clark	Southport avenue	Nov. 8, 1896
Berlin	Leavitt	C. & N.-W. Ry.	Aug. 20, 1897
Berlin	California avenue	Talman avenue	Oct. 1, 1897
Berwy navenue	C., M. & St. P. Ry.	Winthrop avenue	July 2, 1897
Bissell	Garfield avenue	Alley S. Webster avenue	April 8, 1897
Bremen	Leavitt	Robey	Aug. 20, 1897
*Burton place	Clark	Dearborn avenue	
California avenue	Chicago avenue	Grand avenue	Oct. 14, 1897
Canal	Adams	Van Buren	Sept. 30, 1897
*Canal	Fulton	Kinzie	Oct. 26, 1896
*Carmen avenue	Clark	Southport avenue	
Champlain avenue	Sixty-third	Sixty-seventh	March 1, 1897
Champlain avenue	Seventy-first	Seventy-fifth	Nov. 17, 1896
Claremont avenue	Ohio	Grand avenue	Nov. 15, 1897
Clark	Kinzie	Division	Oct. 18, 1897
Clifton Park avenue	Douglas boulevard	Ogden avenue	Aug. 1, 1897
*Commercial avenue	Ninety-second	S. Chicago avenue	Nov. 1, 1897
*Commonwealth ave	Diversey avenue	Surf	
Congress Park	Van Buren	Harrison	Aug. 30, 1896
*Congress	Jefferson	Clinton	Aug. 10, 1897
Cornelia	Robey	Leavitt	Oct. 5, 1897
Cornell	Ashland avenue	Milwaukee avenue	July 1, 1897
Cortez	Robey	Leavitt	Nov. 1, 1897
Cottage Grove ave.	Twenty-second	Thirty-third	Oct. 25, 1897
Cottage Grove ave.	Thirty-third	Thirty-ninth	April 9, 1897
Cottage Grove ave.	S. Chicago avenue	Seventy-fifth	May 1, 1897
Cromwell	Milwaukee avenue	Fullerton avenue	Oct. 1, 1897
Dearborn	Fifty-ninth	481 ft. south	July 1, 1897
Division	Clark	Lake Shore drive	Nov. 12, 1896
Dobson avenue	Seventy-first	Seventy-third	April 1, 1897
Drexel avenue	Seventy-first	S. Chicago avenue	April 1, 1897
Drexel avenue	Seventy-third	Seventy-fifth	Nov. 7, 1896
E. Ravenswood pk.	Estes avenue	Pratt avenue	June 16, 1897
Eighteenth	California avenue	Western avenue	Aug. 1, 1897
Elizabeth	Forty-seventh	Forty-ninth	April 26, 1897
Ellis avenue	Seventy-first	S. Chicago avenue	March 1, 1897
Ellis avenue	Seventy-fourth	Seventy-fifth	Nov. 7, 1896
Evans avenue	L. S. & M. S. Ry.	Seventy-fifth	Nov. 7, 1896
*Evanston avenue	Montrose avenue	Lawrence avenue	
Fairfield avenue	Chicago avenue	Augusta	July 15, 1897
Farwell avenue	C. & N.-W. Ry.	Evanston avenue	June 10, 1897
Fayette court	Harrison	Vernon Park place	Sept. 22, 1897
Fortieth avenue	North avenue	Armitage avenue	Sept. 1, 1897
Forty-second ave.	Twenty-sixth	Twenty-seventh	May 12, 1897
Forty-seventh	Paulina	Leavitt	Aug. 1, 1897

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DURING 1897.

Finished.	CONTRACTOR.	Nature of Improvement.	Square Yards.	Lineal Feet.
Sept. 20, 1897	Brownell Imp. Co.	Macadam	2,000	600
Aug. 21, 1897	James Conlan	"	9,384	2,211
	Sackley & Peterson	Cedar	1,172	293
Unfinished	Sackley & Peterson	Fill		2,640
Sept. 16, 1897	Smith, Moss & Brown	Cedar	4,409	1,058
Aug. 31, 1897	Naugle, Holcomb & Co.	"	5,209	1,234
Sept. 1, 1897	R. F. Conway	"	7,600	1,800
Oct. 10, 1897	R. F. Conway	Macadam	7,480	1,911
Nov. 20, 1897	Brownell Imp. Co.	"	3,825	1,275
April 13, 1897	Henry Rath	"	3,115	896
Sept. 11, 1897	R. F. Conway	Cedar	2,674	635
Nov. 5, 1897	R. F. Conway	"	4,050	960
July 22, 1897	Jas. Lyman & Co.	Macadam	675	203
May 13, 1897	O. Vider	Brick	1,565	470
Sept. 11, 1897	R. F. Conway	Cedar	5,725	1,354
	Sackley & Peterson	"	1,060	318
Oct. 21, 1897	J. H. Esson	"	1,789	428
Dec. 1, 1897	M. C. Burke & Co.	Granite	4,416	828
June 9, 1897	Dillon & Conlan	Brick	2,866	840
	C. M. Netterstrom	Macadam	2,715	905
Aug. 1, 1897	R. F. Conway	"	10,275	2,720
July 15, 1897	R. F. Conway	"	10,880	2,800
Nov. 23, 1897	Talbot Paving Co.	Cedar	1,585	476
Dec. 5, 1897	Barber Asphalt Paving Co.	Asphalt	20,858	5,866
Unfinished	Bermudez Asphalt Co.	Curb		2,577
Nov. 13, 1897	Adolph Anderson	Brick	1,550	465
	Dolese Bros.	Macadam	1,730	520
July 30, 1897	R. F. Conway	Cedar	3,797	1,424
Nov. 1, 1897	Western Electric Co.	Brick	944	340
Oct. 18, 1897	Talbot Paving Co.	Cedar	5,346	1,266
July 20, 1897	Sackley & Peterson	"	10,813	2,508
Nov. 13, 1897	Talbot Paving Co.	"	5,280	1,251
Dec. 10, 1897	Barber Asphalt Paving Co.	Asphalt	26,595	8,170
July 3, 1897	Barber Asphalt Paving Co.	"	14,100	5,215
Oct. 10, 1897	Talbot Paving Co.	Cedar	8,611	2,500
Nov. 5, 1897	R. F. Conway	"	4,110	972
Oct. 1, 1897	Olaf Vider	Macadam	2,631	495
May 18, 1897	Standard Paving Co.	Asphalt	4,827	1,753
Sept. 9, 1897	Assyrian Asphalt Co.	"	5,499	1,415
Sept. 9, 1897	Assyrian Asphalt Co	"	2,384	613
July 15, 1897	R. F. Conway	Macadam	4,960	1,275
Aug. 26, 1897	Smith, Moss & Brown	Cedar	6,535	1,961
Unfinished	R. F. Conway	Filling		2,640
Aug. 16, 1897	Jno. V. McAdam & Son.	Cedar	5,618	1,325
Sept. 20, 1897	Assyrian Asphalt Co	Asphalt	5,103	1,313
July 15, 1897	R. F. Conway	Macadam	2,612	670
July 15, 1897	R. F. Conway	"	10,490	2,700
	Smith, Moss & Brown	Brick	13,316	2,959
Sept. 1, 1897	R. F. Conway	Cedar	6,250	1,481
Sept. 7, 1897	Smith, Moss & Brown	Brick	13,890	4,167
Oct. 4, 1897	Talbot Paving Co.	Cedar	862	337
Sept. 12, 1897	J. B. Smith & Co	"	11,082	2,624
Unfinished	Jno. V. McAdam & Son.	Curb		723
Sept. 2, 1897	R. F. Conway	Cedar	10,394	3,600

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STREETS IMPROVED

NAME.	FROM	TO	Commenced.
Fiftieth	Grand boulevard	Cottage Grove avenue	Sept. 1, 1897
Fifty-seventh	State	S. Park avenue	April 26, 1897
Fifty-eighth	Wentworth avenue	Stewart avenue	May 1, 1897
Francisco	Lexington	Twelfth	June 30, 1897
Fulton	Halsted	Morgan	Nov. 9, 1897
Grace	Division	Vedder	Aug. 5, 1897
Grace	Southport avenue	Ashland avenue	July 1, 1897
Green	Lake	Carroll avenue	April 1, 1897
Green	Sixty-seventh	Sixty-ninth	June 1, 1897
Greenwood avenue	Seventy-first	Seventy-fifth	March 1, 1897
Hamburg	Western avenue	Robey	July 8, 1897
Hamilton avenue	Webster avenue	Berlin	Aug. 20, 1897
Hamilton avenue	Archer avenue	Thirty-seventh	May 10, 1897
Hamlin avenue	Chicago avenue	North avenue	Aug. 15, 1897
*Harding avenue	Twelfth	Fourteenth	Mar. 31, 1897
*Hawthorne place	Evanston avenue	Lake Shore Drive	.....
Hermitage avenue	Lincoln avenue	Addison	July 28, 1897
High	Fullerton avenue	Dunning	Aug. 10, 1897
Homer	Kedzie avenue	Albany avenue	Aug. 31, 1897
Hoyne avenue	Webster avenue	Fullerton avenue	Aug. 20, 1897
Hoyne avenue	Washington boulevard	Harrison	May 25, 1897
Hoyne avenue	Archer avenue	Thirty-fourth	April 19, 1897
Ingleside avenue	L. S & M. S. Ry.	Seventy-fifth	Nov. 7, 1896
Irving Park blvd.	Robey	Forty-eighth avenue	Nov. 23, 1896
Iowa	Hoyne avenue	Leavitt	Nov. 1, 1897
Iowa	California avenue	Rockwell	July 15, 1897
Jackson avenue	L. S. & M. S. Ry.	Seventy-third	Nov. 7, 1896
*Kimbark avenue	Forty-ninth	Fiftieth	Oct. 7, 1897
Langley avenue	Seventy-first	Seventy-fifth	Nov. 7, 1896
Law avenue	Harrison	Polk	Sept. 10, 1897
Leavitt	Chicago avenue	Division	.....
Lexington avenue	Seventy-first	Seventy-fourth	March 1, 1897
Lincoln	Forty-seventh	Fifty-first	Aug. 1, 1897
Madison	Paulina	Western avenue	Oct. 14, 1896
Marshfield avenue	Sixty-third	Sixty-fifth	May 1, 1887
Maxwell	Johnson	Canal	June 1, 1897
Milwaukee avenue	North avenue	Ashland avenue	Mar. 31, 1897
Moffat	Kedzie avenue	Albany avenue	Aug. 23, 1897
Morgan	Sixty fifth	Sixty-ninth	June 1, 1897
Nelson	Blucher	Soult	Oct. 7, 1897
Nineteenth	Spaulding avenue	Turner avenue	Sept. 10, 1897
Ninety-second	Exchange avenue	Harbor avenue	May 15, 1897
North avenue	LaSalle avenue	Clybourn avenue	Sept. 5, 1897
Oak Grove avenue	Clark	Racine avenue	Aug. 3, 1897
Ogden avenue	Washington boulevard	Twelfth	May 1, 1897
Pacific avenue	Harrison	Polk	Nov. 21, 1896
Peoria	Sixty-sixth	Sixty-ninth	June 1, 1897
*Pine	Illinois	Michigan	.....
Pine	Indiana	Illinois	May 1, 1897
Pine Grove avenue	Sheridan road	180 ft. north	July 13, 1897
Rhine	Milwaukee avenue	Talman avenue	Oct. 1, 1897
Rice	Washtenaw avenue	Rockwell	Sept. 16, 1897
Robey	Forty-seventh	Fifty-second	Oct. 1, 1897
Rush	Ohio	Chicago avenue	Sept. 28, 1897

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DURING 1897—CONTINUED.

Finished.	CONTRACTOR.	Nature of Improvements.	Square Yards.	Lineal Feet.
Nov. 24, 1897	R. F. Conway	Macadam	8,543	2,261
Aug. 2, 1897	R. F. Conway	Cedar	9,392	2,486
June 8, 1897	John Crowley	"	4,741	1,250
July 26, 1897	R. F. Conway	"	2,128	1,687
Nov. 20, 1897	Sackley & Peterson	"	6,261	1,214
Sept. 3, 1897	M. J. LaBounty & Co	"	1,814	466
July 23, 1897	Henry Rath	"	5,479	1,298
May 15, 1897	J. V. McAdam & Son	"	3,526	822
Sept. 10, 1897	Sackley & Peterson	"	4,500	1,350
Sept. 20, 1897	Assyrian Asphalt Co.	Asphalt	9,233	2,375
July 20, 1897	Sackley & Peterson	Cedar	10,338	2,585
Sept. 11, 1897	R. F. Conway	"	4,176	990
June 19, 1897	Dillon & Conlan	Macadam	3,152	1,051
Oct. 13, 1897	R. F. Conway	"	21,061	5,417
Nov. 30, 1897	Brownell Imp. Co.	"	3,825	1,275
.....	Dolese Bros.	"	3,433	1,030
Nov. 11, 1897	O. Vider	Cedar	1,796	599
Sept. 20, 1897	Smith, Moss & Brown	"	2,607	617
Sept. 2, 1897	Naugle, Holcomb & Co.	"	1,359	408
Sept. 11, 1897	R. F. Conway	"	4,643	1,100
July 24, 1897	John V. McAdam & Son	"	13,549	3,209
April 30, 1897	John Crowley	Curb and fill	.....	600
July 15, 1897	R. F. Conway	Macadam	4,080	1,050
Nov. 20, 1897	James Bairstow & Bro.	"	82,635	20,100
Nov. 12, 1897	Naugle, Holcomb & Co	Cedar	2,639	625
Sept. 1, 1897	R. F. Conway	"	5,068	1,200
July 15, 1897	R. F. Conway	Macadam	810	300
Nov. 10, 1897	Dolese Bros.	"	1,596	378
July 15, 1897	R. F. Conway	"	10,490	2,700
Oct. 26, 1897	Sackley & Peterson	Cedar	2,584	813
.....	R. F. Conway	Curb and fill	.....	2,640
Sept. 20, 1897	Assyrian Asphalt Co.	Asphalt	8,177	2,100
Oct. 2, 1897	R. F. Conway	Cedar	11,073	2,623
May 29, 1897	Barber Asphalt Paving Co.	Asphalt	10,819	3,520
Sept. 1, 1897	Henry Rath	Cedar	4,441	1,325
July 9, 1897	John V. McAdam & Son	"	11,528	2,730
June 3, 1897	Bermudez Asphalt Co.	Asphalt	10,628	3,500
Aug. 28, 1897	Wm. Carden	Cedar	1,587	397
Sept. 10, 1897	Sackley & Peterson	"	11,184	2,650
Nov. 17, 1897	Naugle Holcomb & Co.	"	1,902	610
Oct. 27, 1897	Sackley & Peterson	"	1,173	278
June 22, 1897	J. H. Esson	Brick	8,799	2,600
Sept. 30, 1897	J. H. Esson	"	12,389	4,405
Sept. 23, 1897	Smith, Moss & Brown	Cedar	1,526	485
July 10, 1897	Sackley & Peterson	Brick	31,690	7,990
April 29, 1897	Dillon & Conlan	Granite	4,004	800
Sept. 10, 1897	Sackley & Peterson	Cedar	6,500	1,950
....	Dillon & Conlan	Slag macadam	919	276
May 21, 1897	Jas. Lyman & Co.	Macadam	1,178	353
July 31, 1897	Jas. Lyman & Co.	"	993	201
Nov. 11, 1897	R. F. Conway	Cedar	3,860	915
Oct. 8, 1897	R. F. Conway	Macadam	2,361	607
Sept. 15, 1897	R. F. Conway	Cedar	15,218	3,353
Oct. 6, 1897	J. V. McAdam & Son	"	5,626	1,480

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STREETS IMPROVED

NAME.	FROM	TO	Commenced.
St. Lawrence ave..	South Chicago avenue....	Seventy-fifth.....	Nov. 7, 1896
Sangamon.....	Sixty-sixth.....	Sixty-ninth.....	June 1, 1897
Sawyer avenue....	Twenty-second.....	Twenty-sixth.....	April 19, 1897
Schell avenue.....	Seventy-first.....	South Chicago avenue....	March 1, 1897
Seeley avenue.....	Webster avenue.....	Fullerton avenue.....	Aug. 20, 1897
Sherwin avenue...	C., M. & St. P. Ry.....	Lake Michigan.....	Aug. 10, 1897
Sixtieth place. ...	Halsted.....	Union avenue..	Oct. 15, 1896
Sixty-third.....	Center avenue..... ...	Ashland avenue.....	Sept. 1, 1896
Sixty-seventh.....	Halsted.....	Morgan.....	June 1, 1897
Sixty-eighth.....	Halsted..... ..	Morgan.....	June 1, 1897
Sixty-ninth.....	Halsted.....	Ashland avenue.....	Jan. 1, 1897
Seventieth place...	St. Lawrence avenue.....	L. S. & M. S. Ry.....	Nov. 7, 1896
Seventieth.....	Cregier avenue.....	Stony Island avenue.....	Sept. 20, 1897
Seventy-first place.	Woodlawn avenue.....	I. C. R. R.....	March 1, 1897
Seventy-first.....	Woodlawn avenue.....	Cottage Grove avenue....	March 1, 1897
Seventy-first.....	State.....	Perry avenue	July 1, 1897
Seventy-second....	St. Lawrence avenue.....	Cottage Grove avenue....	Nov. 7, 1896
Seventy-second....	Schell.....	I. C. R. R.....	March 1, 1897
Seventy-third.....	South Chicago avenue....	Cottage Grove avenue....	Nov. 7, 1896
Seventy-third.....	South Chicago avenue ...	I. C. R. R..... ...	March 1, 1897
Seventy-fourth.....	South Chicago avenue....	Woodlawn avenue.....	March 1, 1897
Seventy-fourth.....	Ellis avenue.....	Jackson avenue.....	Nov. 7, 1896
South Chicago ave.	Seventy-Third.....	Seventy-fifth.....	June 1, 1896
South Normal Parkway...	Wright..... ...	C. R. I. & P. Ry.....	Feb. 1, 1897
South Park avenue.	Sixty-seventh.....	Seventy-first.....	April 10, 1897
Spaulding avenue.	Van Buren.....	Congress.....	May 25, 1897
Spaulding avenue.	Douglas boulevard.....	Ogden avenue.....	Aug. 1, 1896
*Springfield avenue.	Twelfth.....	Fourteenth.....	Mar. 31, 1897
Stanley Terrace...	Jackson boulevard.....	Van Buren.....	April 13, 1897
State, west ½.....	Thirty-ninth.....	Fortieth.....	Sept. 8, 1897
Superior.....	Rush.....	450 feet East St. Clair....	May 1, 1897
Superior.....	State.....	Rush.....	July 11, 1897
Superior.....	California avenue.... ...	Washtenaw avenue.....	Oct. 20, 1897
*Surf.....	Lake View avenue.....	Commonwealth avenue...	.....
Thomas.....	Leavitt.....	Wood.....	Oct. 23, 1896
Thomas...	California avenue.....	Sacramento avenue	Sept. 1, 1897
Twelfth.....	Fortieth avenue	Forty-fourth avenue.....	May 1, 1897
Thirteenth.... ...	Fortieth avenue	Douglas boulevard.....	Mar. 31, 1897
Twentieth.	Rockwell.....	Washtenaw avenue	June 1, 1896
Twenty-third	Hoyne avenue.....	Oakley avenue.....	Oct. 25, 1896
Twenty-fourth	Wabash avenue.....	State.....	April 13, 1897
Twenty-fifth, Coulter.	Leavitt.....	Hoyne avenue.....	June 1, 1896
Twenty-sixth.....	Fortieth avenue..... ...	Forty-second avenue.....	May 12, 1897
Thirty-second place	Auburn.....	Morgan.....	Sept. 15, 1897
Thirty-third.....	Halsted.....	Morgan.....	June 10, 1897
Thirty-fifth court..	Halsted.....	Morgan	July 2, 1897
Thirty-seventh crt.	Halsted..... ...	Morgan.....	June 16, 1897
Thirty-ninth.....	Ellis avenue.....	Cottage Grove avenue....	April 9, 1897
Union avenue.....	Fifty-ninth.....	Sixty-first.....	Oct. 15, 1896
Union.....	Twelfth.....	75 feet south of Fifteenth.	July 24, 1897
Vernon avenue....	Thirty-first.....	Thirty-third.	June 17, 1897
*Water.....	Washington.....	Madison.....	July 4, 1897

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DURING 1897—CONTINUED.

Finished.	CONTRACTOR.	Nature of Improvement.	Square Yards.	Lineal Feet.
July 15, 1897	R. F. Conway	Macadam	8,940	3,500
Sept. 10, 1897	Sackley & Peterson	Cedar	6,500	1,950
Aug. 3, 1897	Jno. V. McAdam & Co.	"	9,760	2,745
Sept. 20, 1897	Assyrian Asphalt Co.	Asphalt	3,365	865
Sept. 11, 1897	R. F. Conway	Cedar	4,816	1,140
Sept. 24, 1897	Jas. Lyman & Co.	Macadam	6,035	1,347
Aug. 19, 1897	C. M. Netterstrom	"	1,870	600
Aug. 27, 1897	Sackley & Peterson	Cedar	8,110	2,808
Sept. 10, 1897	Sackley & Peterson	"	4,300	1,200
Sept. 10, 1897	Sackley & Peterson	"	4,300	1,290
Nov. 1, 1897	Henry Rath	"	17,187	5,950
July 15, 1897	R. F. Conway	Macadam	1,200	400
Nov. 18, 1897	R. F. Conway	"	3,452	1,815
Sept. 20, 1897	Assyrian Asphalt Co.	Asphalt	1,520	391
Sept. 20, 1897	Assyrian Asphalt Co.	Asphalt	5,842	2,145
Sept. 10, 1897	Brownell Improvement Co.	Macadam	3,490	827
July 15, 1897	R. F. Conway	"	4,470	1,150
Sept. 20, 1897	Assyrian Asphalt Co.	"	6,625	1,705
July 15, 1897	R. F. Conway	Asphalt	6,230	1,100
Sept. 20, 1897	Assyrian Asphalt Co.	"	6,145	1,273
Sept. 20, 1897	Assyrian Asphalt Co.	"	2,045	526
July 15, 1897	R. F. Conway	Macadam	5,330	1,200
July 1, 1897	Talbot Paving Co.	Brick	8,503	1,791
Aug. 12, 1897	R. F. Conway	Macadam	3,985	1,195
July 15, 1897	Barber Asphalt Paving Co.	Asphalt	7,639	2,600
July 29, 1897	Dillon & Conlan	Macadam	642	278
Sept. 21, 1897	Sackley & Peterson	Cedar	8,405	1,991
Nov. 20, 1897	Brownell Improvement Co.	Macadam	3,825	1,275
May 26, 1897	Standard Paving Co.	Asphalt	1,200	450
Sept. 10, 1897	Sackley & Peterson	Cedar	1,628	637
July 21, 1897	O. Vider	Macadam	4,003	1,161
Aug. 7, 1897	Sackley & Peterson	Cedar	2,304	610
Oct. 30, 1897	Sackley & Peterson	"	2,635	621
.....	Dolese Bros.	Macadam	1,000	300
July 15, 1897	R. F. Conway	Cedar	10,047	2,379
Oct. 22, 1897	Talbot Paving Co.	"	4,837	1,146
Oct. 30, 1897	R. F. Conway	"	8,239	2,698
Nov. 20, 1897	Brownell Improvement Co.	Macadam	3,900	1,300
July 21, 1897	R. F. Conway	Cedar	2,540	602
July 17, 1897	R. F. Conway	"	5,316	1,200
May 15, 1897	J. V. McAdam & Son	"	1,537	364
July 28, 1897	R. F. Conway	"	2,834	671
Unfinished	J. V. McAdam & Son	Curb	.....	1,433
Nov. 8, 1897	R. F. Conway	Cedar	1,893	609
Aug. 25, 1897	R. F. Conway	"	2,932	1,256
Aug. 21, 1897	R. F. Conway	"	5,717	1,354
July 25, 1897	Henry Rath	"	5,704	1,351
July 3, 1897	Barber Asphalt Co.	Asphalt	1,625	385
Aug. 1, 1897	C. M. Netterstrom	Macadam	5,563	1,318
Aug. 18, 1897	R. F. Conway	Cedar	9,317	2,207
Aug. 25, 1897	Henry Rath	Macadam	4,986	1,496
July 16, 1897	Dillon & Conlan	Brick	1,360	364

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STREETS IMPROVED

NAME.	FROM	TO	Commenced.
Warren avenue....	Homan avenue.....	98 feet east of Fall.....	Oct. 14, 1896
Wentworth avenue.	Fifty-fifth.....	Sixty-third.....	April 1, 1897
Woodlawn avenue.	Seventy-first	South Chicago avenue....	March 1, 1897
Wright Court.....	Huron.....	Grand avenue.....	.....

*Private Contract.

SUMMARY.

Total lineal feet of cedar block pavement in alleys.....	15,623 or	2.96 miles.
Total lineal feet of asphalt pavement in alleys.....	400 "	0.08 "
Total lineal feet of granite pavement in alleys.....	1,140 "	0.22 "
Total lineal feet of macadam pavement in alleys.....	5,539 "	1.05 "
Total lineal feet of brick pavement in alleys.....	400 "	0.07 "
Total lineal feet of cedar block pavement in streets.....	108,636 "	20.57 "
Total lineal feet of asphalt pavement in streets.....	54,402 "	10.30 "
Total lineal feet of granite pavement in streets.....	1,628 "	0.31 "
Total lineal feet of macadam pavement in streets.....	76,442 "	14.47 "
Total lineal feet of brick pavement in streets.....	31,713 "	6.01 "
Total lineal feet of curb and fill in streets.....	13,253 "	2.51 "
Totals.....	309,176 or	58.55 miles.

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DURING 1897—CONTINUED.

Finished.	CONTRACTOR.	Nature of Improvements.	Square Yards.	Lineal Feet.
July 14, 1897	Assyrian Asphalt Co.....	Asphalt.....	16,721	5,574
Nov. 19, 1897	Sackley & Peterson.....	Brick.....	21,287	5,322
Sept. 20, 1897	Assyrian Asphalt Co.....	Asphalt.....	13,258	2,648
.....	Talbot Paving Co.....	Cedar.....	1,257	377

PARK AND BOULEVARD IMPROVEMENTS.

SOUTH PARK COMMISSIONERS.

Macadam.....	7,010 square yards	1,660 lineal feet	0.31 miles.
Asphalt.....	16,670 "	3,537 "	0.67 "

WEST CHICAGO PARK COMMISSIONERS.

Macadam.....	8,622 square yards	3,120 lineal feet	0.59 miles.
Asphalt.....	21,626 "	7,339 "	1.39 "
Totals.....	53,928 "	15,656 "	2.96 "

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SUMMARY OF STREETS IMPROVED DURING 1897.

PAVEMENT.	NORTH DIVISION, Including Lake View and Rogers Park.			SOUTH DIVISION, Including Hyde Park and Lake.			WEST DIVISION, Including Jefferson and Cicero.			TOTALS.				
	Square Yards.	Lineal Feet.	Miles.	Square Yards.	Lineal Feet.	Miles.	Square Yards.	Lineal Feet.	Miles.	Square Yards.	Lineal Feet.	Miles.	Miles Alleys.	Miles Streets.
Cedar Blocks	33,748	9,969	1.89	164,093	51,813	9.81	234,483	62,477	11.83	432,324	124,259	23 53	2.96	20.57
Asphalt	25,685	7,619	1 44	119,577	34,139	6.47	39,368	13,044	2.47	184,630	54,802	10.38	0.08	10.30
Granite	.....	.....	.....	6,393	1,940	0.37	4,416	828	0.16	10,809	2,768	0.53	0.22	0.31
Macadam	46,935	12,303	2.33	122,025	33,601	6.36	127,545	36,077	6.83	296,505	81,981	15.52	1.05	14.47
Brick	41,160	12,001	2.27	40,139	10,178	1.93	37,593	9,984	1.88	118,892	32,113	6.08	0.07	6.01
Totals	147,528	41,892	7.93	452,227	131,671	24.94	443,405	122,360	23.17	1,043,160	295,923	56.04	4.38	51 66
Curbed and Filled	.....	.....	.....	.....	600	0.11	.....	12,653	2.40	.....	13,253	2.51	.....	2.51
Grand Totals	147,528	41,892	7.93	452,227	132,271	25 05	443,405	135,013	25.57	1,043,160	309,176	58.55	4.38	54.17

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TABLE SHOWING PERCENTAGE OF EACH CLASS OF PAVEMENT.

PAVEMENT.	1897.		1896.		1895.		1894.		1893.	
	Miles.	Per Cent.	Miles.	Per Cent.	Miles.	Per Cent.	Miles.	Per Cent.	Miles.	Per Cent.
Cedar Block...	765.43	62.49	752.68	63.59	726.01	64.62	705.07	64.90	648.38	64.38
Macadam	357.17	29.17	344.31	29.09	332.14	29.56	324.69	29.89	310.81	30.86
Medina Stone .	2.29	0.19	2.43	0.21	2.49	0.22	2.58	0.24	2.58	0.26
Granite Block .	25.69	2.10	25.27	2.13	23.31	2.07	22.90	2.11	22.64	2.25
Sheet Asphalt.	55.26	4.51	45.94	3.88	30.75	2.74	24.99	2.29	16.65	1.65
Block Asphalt .	2.97	0.24	3.05	0.26	3.59	0.32	3.59	0.33	3.59	0.36
Brick.....	14.80	1.21	8.88	0.75	4.17	0.37	1.31	0.12	1.09	0.11
"Foundation"	1.08	0.09	1.08	0.09	1.08	0.10	1.08	0.10	1.08	0.11
Burnt Clay ...	.....	.....	.....	.....	.....	.....	0.23	0.02	0.23	0.02
Totals ..	1224.69	100	1,183.64	100	1,123.54	100	1,086.44	100	1,007.95	100

DISTRIBUTION OF KIND OF PAVEMENT.

DIVISION.	Cedar Block.	Macadam	Medina Stone.	Granite.	Sheet Asphalt.	Block Asphalt.	Brick.	Foundation.	Totals.
North	160.93	65.05	0.49	0.81	6.32	.....	3.84	1.08	238.52
South	214.82	263.69	1.41	20.52	16.89	2.97	7.18	.....	527.48
West	389.68	28.43	0.39	4.36	32.05	.....	3.78	.....	458.69
TOTALS.....	765.43	357.17	2.29	25.69	55.26	2.97	14.80	1.08	1,224.69

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RECAPITULATION OF STREETS AND ALLEYS BY TOWNSHIPS, SHOWING IMPROVED AND UNIMPROVED STREETS AND ALLEYS AT THE CLOSE OF THE YEAR 1897.

TOWNSHIP	Total Streets—Miles.	Total Alleys—Miles.	Cedar Block.	Macadam.	Medina Stone.	Granite.	Sheet Asphalt.	Block Asphalt.	Brick.	"Foundation."	Improved Streets and Alleys—Miles.	Unimproved Streets and Alleys—Miles.	Repaved in 1897—Miles.		
													Streets.	Alleys.	Totals.
*Hyde Park	750.48	357.56	29.87	183.47	.....	.....	9.45	.....	4.80	.....	227.09	880.95	1.07	.....	1.07
Jefferson	321.95	127.79	39.68	4.55	.....	.....	0.77	.....	.....	.....	45.00	404.74	.....	.....	.....
Lake	391.05	259.53	65.98	70.90	.....	.....	.....	.....	1.55	.....	133.43	512.15	1.13	.....	1.13
Lake View	157.29	103.10	61.07	58.82	.....	.....	.....	.....	1.62	.....	121.51	138.88	0.33	.....	0.33
North Town	169.72	78.65	95.65	1.96	0.49	0.81	6.01	.....	1.43	.....	106.35	142.02	8.16	.....	8.16
Norwood Park	26.50	10.49	.....	.....	.....	.....	.....	.....	.....	.....	.....	36.99	.....	.....	.....
Rogers Pk. & West Ridge	35.83	17.62	4.21	4.27	.....	.....	0.31	.....	0.79	1.08	10.66	42.79	.....	.....	.....
South Town	330.36	108.18	118.97	9.32	1.41	20.52	7.44	2.97	1.33	.....	161.96	176.58	3.11	0.21	3.32
West Town	492.84	285.24	350.00	23.88	0.39	4.36	31.28	.....	3.78	.....	413.69	364.39	5.98	.....	5.98
Totals	2,576.02	1,348.16	765.43	357.17	2.29	25.69	55.26	2.97	14.80	1.08	†1,224.69	2,699.49	14.78	0.21	14.99

* Including Calumet, Washington Heights and Gano. † Of this total paved mileage 1,011.90 are streets and 112.79 alleys.

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From 1835 to 1844 the work on the streets consisted of grading only; from 1844 to 1855 improvements were made by planking, after which the more substantial forms of paving came into use—cedar blocks in 1874, asphalt in 1882 and brick in 1891. The following table shows the amount of paving laid each year since the introduction of pavements in 1855:

YEAR.	MILES.	YEAR.	MILES.	YEAR.	MILES.		
					Alleys.	Streets.	Totals.
1855	1.72	1868	5.46	1881	0.13	24.39	24.52
1856	0.26	1869	18.32	1882	0.58	24.37	24.95
1857	2.62	1870	19.96	1883	1.96	20.53	23.49
1858	7.20	1871	25.63	1884	1.60	32.92	34.52
1859	5.70	1872	1.82	1885	1.16	36.90	38.06
1860	.....	1873	10.19	1886	1.51	42.15	43.66
1861	0.69	1874	9.07	1887	2.60	34.15	36.75
1862	2.57	1875	11.49	1888	2.19	52.14	54.33
1863	2.00	1876	10.50	1889	.....	.....	*146.54
					3.78	103.90	107.68
1864	2.40	1877	12.29	1890	8.50	91.22	99.72
1865	2.08	1878	11.01	1891	12.86	104.73	117.59
1866	8.87	1879	6.83	1892	14.26	93.71	107.97
1867	11.37	1880	16.84	1893	.....	.....	*6.91
					31.36	106.10	137.46
				1894	16.94	75.01	91.95
				1895	5.27	42.48	47.75
				1896	4.33	78.32	82.65
				1897	4.38	51.66	56.04
Totals.....					113.41	1,054.68	1,488.38

* The mileage in heavy type opposite the years 1889 and 1893 gives the total amount of paved streets prior to those years in the annexed territories of Hyde Park, Lake and Lake View, and of Rogers Park and West Ridge, respectively.

Of this amount 263.69 miles have been repaved during the same period, which reduces the actual amount of paved streets and alleys within the corporate limits on December 31, 1897, to 1,224.69 miles (streets, 1,111.90; alleys, 112.79). To this may be added 1,464.12 miles of unimproved streets and 1,235.37 miles of unimproved alleys, which makes a total of 3,924.18 miles of streets in Chicago at this date.

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RECAPITULATION.

STREETS.	Streets–Miles.	Alleys–Miles.	Total–Miles.
Improved	1,111.90	112.79	1,224.69
Unimproved	1,464.12	1,235.37	2,699.49
Total Miles	2,576.02	1,348.16	3,924.18

REPAVING.

The amount of repaving done by the division foremen in repairing improved streets, the replacing of pavement where openings were made by Water, Sewer and Fire Departments, etc., and on account of street and general repairs is shown in the following table:

FOR WHAT PURPOSE.	North Div.	South Div.	West Div.	Total.
	Square Yds.	Square Yds.	Square Yds.	Square Yds.
General Repairs	26,709	43,198	45,978	115,975
Water Department	8,450	172	346	8,968
Sewer Department	84	31	109	174
Street Permits	5,846	1,466	619	7,571
Totals	40,679	44,862	47,047	132,588
Amount of repaving done by contractors on street repairs for the City	72,440	102,622	93,374	268,436
Grand Total	113,119	147,484	140,421	401,024

(Of the 132,588 square yards of repaving, 30,489 square yards was with old material.)

Total number of square yards repaved was 401,024.

The above does not include any repaving done by contractors for gas companies, Bureau of Light, etc.

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LUMBER.

The following table shows in detail the amount of lumber used by the division foremen in the construction and repair of aprons, culverts, crossings, etc., and also for sidewalk intersections and general repairs:

FOR WHAT USED.	NORTH DIVISION.		SOUTH DIVISION.		WEST DIVISION.	
	No.	LUMBER. Sq. Feet.	No.	LUMBER. Sq. Feet.	No.	LUMBER. Sq. Feet.
Aprons	133	782	172	12,209	771	29,504
Crossings	331	19,193	852	152,222	916	122,998
Culverts	76	2,639	519	81,284	879	23,158
Drains	91	3,597	74	10,772	35	4,726
Steps and Railings	195	2,714	74	2,515	69	94,579
Street repairs	.....	89,718	.....	36,053	.....	72,941
Sidewalk intersections	307	22,095	377	44,867	951	109,825
Sidewalk, general repairs	.....	163,522	.....	579,260	.....	599,832
Totals	.....	304,260	.....	919,132	.....	972,441

RECAPITULATION.

North Division ..... 304,206 feet of lumber
South Division ..... 919,132 feet of lumber
West Division ..... 972,441 feet of lumber

Grand total ..... 2,195,833 feet of lumber

(In this amount is included 332,447 feet of old lumber.)

Total number of aprons built and repaired 1,076
Total number of crossings built and repaired 2,139
Total number of culverts built and repaired 1,474
Total number of drain boxes built and repaired 200
Total number of steps and railings built and repaired 339
Total number of intersections built and repaired 1,635

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UNIMPROVED STREETS.

The money appropriated for this Bureau for the purpose of grading, ditching, etc., was inadequate to the needs of this particular portion of the work. However, the amount appropriated was well and carefully expended, as will be shown in the following table:

	Grading.	Ditching.
North Division	1.49 miles.	4.05 miles.
South Division	45.50 miles.	75.83 miles.
West Division	228.00 miles.	105.00 miles.
Totals	277.99 miles.	184.88 miles.

The division foremen cleaned macadam streets as follows:

North Division	10.6 miles.
South Division	83.8 miles.
West Division	4.2 miles.
Total	98.6 miles.

SIDEWALKS.

During the year 1897 there was constructed by the City a grand total of 236.22 miles of sidewalk, divided as follows:

Plank sidewalk	152.18 miles.
Concrete sidewalk	77.42 miles.
Stone walk	3.27 miles.
Concrete walk, constructed by the various Park Boards	3.26 miles.
Total	236.13 miles.

Ordinances passed under the old law were as follows:

For plank walk	191 (6 repealed).
For concrete walk	64 (4 repealed).
For stone walk	1
Total	256 (10 repealed).

Ordinances passed under the new law were as follows:

For plank walk	30
For cement walk	11
Total	41

Making a total of 297 ordinances, with ten (10) repealed.

Under the old law the number of estimates prepared for the City Council was 53.

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Under the new law inspections have been made and estimates prepared for the Board of Local Improvements for the following:

For cement walks	266 streets.
For plank walks	155 streets.
For stone walks	16 streets.
Total	437 streets.

Making a total of 490 estimates prepared during the year.

The number of complaints of defective sidewalks registered, reported on by inspectors, and for which notices were sent to the property owners was 12,787; 85 per cent of the number notified complied with notice and put walks in proper condition.

Two hundred and eighty-six miles of sidewalks have been inspected and condemned during the year, and estimates have been prepared by this department for the walks so condemned.

The following table shows in detail the amount of sidewalks constructed during the year and the total mileage now under control of the City and various Park Boards:

NUMBER OF MILES OF WOOD, STONE AND CONCRETE SIDEWALKS BUILT DURING 1897.

DIVISION.	Wood, Miles.	Stone, Miles.	Concrete, Miles.	Total Miles.	Sidewalks Repaired.	Total Miles.
North	17.42	0.27	25.53	43.22	7.41	50.63
South	64.59	1.26	24.88	90.73	8.78	99.51
West	70.17	1.74	27.01	98.92	14.20	113.12
Totals	152.18	3.27	77.42	232.87	30.39	263.26

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The following table gives the number of miles of sidewalk under control of the City and the different Park Boards:

UNDER CONTROL OF	MATERIAL.			TOTAL MILES.
	Wood, Miles.	Stone, Miles.	Concrete, Miles.	
City	4,052.32	236.80	687.15	4,976.27
South Park Commissioners		20.00	30.76	50.76
West Park Commissioners		11.05	53.65	64.70
Lincoln Park Commissioners		2.17	5.43	7.60
Totals	4,052.32	270.02	776.99	5,099.33

On the 13th day of November, 1897, the Board of Local Improvements passed the following resolution:

Resolved, That it is the sense of the board that hereafter all orders passed by the board be for cement or stone sidewalks, except where a majority of the owners of the frontage petition for plank walk.

Resolved, That where walks are not repaired and placed in safe condition within thirty days from this date the engineer will be instructed to prepare estimates for cement or stone sidewalks.

PERMITS FOR OPENING STREETS.

One thousand seven hundred and twenty-one (1,721) permits were issued to sundry persons to open improved streets. A cash deposit covering cost of replacing pavement, etc., to its original condition was made on each permit issued.

One thousand four hundred and seventy-six (1,476) permits were issued to sundry corporations to open improved streets. A cash deposit covering cost of replacing pavement, etc., to its original condition was made on each permit issued.

Eight thousand one hundred and ninety-six (8,196) permits were issued to gas companies under general and special deposits to open improved streets, the work of replacing the pavements being done by contractors, subject to inspection and acceptance of the department, the cost of such repavement and inspection being borne by the respective companies.

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Four thousand three hundred and thirty-eight (4,338) permits were issued to sundry persons to open unimproved streets. The City incurring no expense on account of these openings, no deposit was required. These permits, however, are issued to the licensed plumbers, contractors, etc., only upon filing a bond to protect the City against damages resulting from accidents through such openings.

Four thousand two hundred and thirty-five (4,235) permits were issued to the gas companies and sundry other corporations to open unimproved streets. The City incurring no expense on account of these openings, no deposit was required. These permits, however, are issued to such companies and corporations only upon a bond to protect the City against damages resulting from accidents through such openings.

Total number of openings, nineteen thousand nine hundred and sixty-six (19,966).

The difference between this year's number of permits issued to the gas companies and previous years was caused by the fact that during this year they were required to get a permit for each opening, where heretofore a monthly permit was issued to each company.

The following statement shows in detail the amount of deposit, cost of repairs, yards of different kinds of pavement relaid, etc.:

OPENINGS OF IMPROVED STREETS BY SUNDRY PERSONS.

Amount of deposits made	$27,094 90
Amount retained for cost of repaving	8,503 08
Amount rebated to depositors	15,853 60
Amount retained on unsettled permits	2,738 22
Average amount of each deposit	15 74
Average amount retained for costs	4 94

OPENINGS OF IMPROVED STREETS BY SUNDRY CORPORATIONS.

Amount of deposits made	$32,822 13
Amount retained for cost of repaving	20,223 90
Amount rebated to depositors	10,521 72
Amount retained on unsettled permits	2,076 51
Average amount of each deposit	22 24
Average amount retained for cost	1 41
Amount paid by corporations for inspection	26,248 98

Amount of different kinds of pavement relaid on account of street openings by sundry persons, corporations, etc.:

New cedar block	5,429 square yards
Old cedar block	20,557 square yards
Granite	12,229 square yards
Brick	96 square yards
Asphalt	1,146 square yards
Macadam	5,652 square yards

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PERMITS FOR USE OF STREETS.

Four hundred and eighty-four (484) permits were issued to sundry parties to occupy streets for the purpose of depositing material thereon during the construction of buildings. A uniform deposit is made in each instance, and a bond filed by the party securing permit to protect the City against possible damage suits in case of accidents, due to the negligence of owner or contractor, during the life of the permit.

The following statement shows in detail the amount of deposits, costs for the use of streets, amount rebated, etc.:

Amount of cash deposits made	$16,079 50
Amount retained for use of streets	3,046 00
Amount rebated to depositors	9,977 50
Amount retained on unsettled permits	4,056 00
Average amount of cash deposits	33 22
Average amount retained for use of streets	4 23

LAMP DEPARTMENT.

The work done by this department during the past year was greatly enlarged and diversified, for example: Heretofore the bulk of repair work on lamp service, pipes and lamp posts was given to the gas companies, for which they charged exorbitant prices. Most of the work during the past year has been done by employes of this department, and greatly to the benefit of the department.

The following is a detailed statement of all the work done:

GAS LAMPS ERECTED.

New gas lamps put on posts for special assessment department during the year, and for which credit will be given to lamp department fund	1,158	
New boulevard gas lamps put on posts for special assessment department during the year, and for which credit will be given to lamp fund	165	
New gas lamps put on posts for repairs to replace worn-out lamps	1,495	
Repaired lamp heads put on posts during the year	2,669	
New boulevard gas lamps put on posts to replace old and broken ones	462	
New boulevard gas lamps erected on special order of the Council in front of churches and public buildings	46	
Total number of new and repaired gas lamps erected during the year ending December 31st, 1879		5,995

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Number of globes, domes and tops put on boulevard heads for repairs to replace broken ones:		
Globes		2,374
Domes		1,391
Tops		1,130
New posts delivered to gas companies to be put up in place of broken ones	228	
Posts erected by employes of this department	99	
Total		327

STREET SIGNS OF ALL KINDS.

Blue glass city signs, 3x16 inches, put up in gas lamps on street corners	19,790	
Blue glass electric lamp signs, 4x18 inches	711	
Blue glass minor signs, 3½x11½ inches	452	
White opal strips, 4x18 inches, used as backing for electric signs.	731	
Total signs of all kinds		21,684

Other work done by this department on lamp posts :

Sign frames put up during the year	189
Posts taken down and re-erected	94
Posts taken down	106
Posts placed to grade	86
Posts reset	154
Posts releaded	14
New stand posts erected	287
Repaired services	49
New services put in	20
Cut-off stand pipes	40
Posts straightened	250
Loose posts fastened	90
Lamp posts discontinued	36
Posts braced	61
Cleared sag	25

The following is the number of gas, gasoline and electric lamps in service :

Gas lamps	33,042
Gasoline lamps (Am. Dev. Co.)	2,837
Gasoline lamps (Globe L. & H. Co.)	7,387
Electric lamps	1,417
Total lamps of all kinds in service December 31st, 1897	44,683

In addition, this department cares for 7,500 lamps that have been discontinued.

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RECEIPTS.

Appropriation	$40,000 00	
Received from special assessment department for work done	15,274 34	
From other departments and sundry bills	170 53	
Sale of scrap iron	57 00	
Total receipts from all sources		$55,501 87

EXPENDITURES.

Pay roll	$27,941 45	
Supplies	9,916 21	
Chicago Gas Light & Coke Co	1,584 33	
Hyde Park Gas Company	1,086 94	
Lake Gas Company	638 33	
Peoples Gas Light & Coke Co	6,888 61	
Suburban Gas Co	363 98	
Miscellaneous expense	598 22	
Total expenditures for all purposes		49,018 07
Leaving a credit to this department of		$ 6,483 80

HOUSE MOVING.

Six hundred and forty-one (641) permits to move buildings were granted, of which five hundred and forty (540) were for frame buildings, one hundred and seven (107) were for brick, the total frontage aggregating thirteen thousand six hundred and twenty-six (13,626) lineal feet.

Of the number two hundred and three (203) were in the North Division, two hundred and sixty-five (265) in the South Division, and one hundred and seventy-three (173) in the West Division. Three hundred and fifty-one (351) were one-story, two hundred and seventy-seven (277) two-story, and nineteen (19) were three-story high.

Total cash receipts, one thousand two hundred and seventy-four dollars ($1,274).

The total receipts from permits issued during the year are inadequate to pay the salaries of the permit clerks and house-moving inspectors, therefore the necessity of an adjustment of charges for permits is apparent.

Under City ordinances at present the fees are limited to one dollar ($1.00) for moving a building to another part of the same lot upon which the building stands, and a charge of five dollars ($5.00) for moving a building from one lot to another where a street is used.

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HOUSE MOVING.

MONTHS, 1897.	Permits Issued.	MATERIAL.		STORIES HIGH.			DIVISION.			FRONTAGE.	FEES.		Cash Receipts
		Frame.	Brick.	One.	Two.	Three.	North.	South.	West.	Lineal feet.	$1.00	$5.00	
January	18	17	1	7	10	1	7	7	4	896	15	3	$ 90 00
February	38	30	8	23	15	....	8	21	9	796	27	11	82 00
March	74	59	16	41	32	2	24	26	24	1,564	62	12	122 00
April	69	57	14	44	25	2	21	26	22	1,498	58	12	118 00
May	74	60	16	33	41	2	29	28	17	1,613	54	21	159 00
June	56	50	6	34	21	1	10	27	19	1,145	47	9	92 00
July	51	50	5	36	17	2	16	25	14	1,000	38	15	113 00
August	56	48	9	29	26	2	16	20	20	1,306	43	14	115 00
September	68	51	13	34	30	....	26	25	13	1,367	45	19	140 00
October	71	60	11	39	28	4	23	31	17	1,416	50	21	155 00
November	40	36	4	18	21	1	11	22	7	817	27	13	92 00
December	26	22	4	13	11	2	12	7	7	610	18	8	58 00
TOTALS	641	540	107	351	277	19	203	265	173	13,626	484	158	$1,274 00

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The following table shows in detail the different street car companies, together with the number of miles of cable, electric, horse and elevated railways operated by each company, also total miles of street car lines in operation December 31, 1897. Extensions made during the year were entirely electric.

CORPORATIONS.	Cable.	Electric.	Horse.	Elevated.		Extension in 1897.	Total.
				Steam.	Electric		
Calumet Electric Street Ry. Co.	.....	80.000	.....	.....	.....	E. 3.00	83.000
Chicago City Railway Co	34.75	149.740	5.23	.....	.....	E. 5.50	195.220
Chicago Electric Transit Co.	.....	42.000	.....	.....	.....	E. 17.00	59.000
Chicago General Railway Co.	.....	25.966	.....	.....	.....	.....	25.966
Chi. & Jefferson Urban Transit Co.	.....	7.600	.....	.....	.....	.....	7.600
Chicago North Shore St. Ry. Co.	.....	18.000	.....	.....	.....	.....	18.000
Cicero & Proviso St. Ry. Co.	.....	37.670	.....	.....	.....	.....	37.670
South Side Elevated Railroad	.....	.....	.....	10.70	.....	.....	10.700
Chicago Electric Traction Co.	.....	26.000	.....	.....	.....	.....	26.000
Lake Street Elevated Railroad	.....	.....	.....	.....	9.08	.....	9.080
Metropolitan West Side Ele. R. R.	.....	.....	.....	.....	14.84	.....	14.840
North Chicago Electric Ry. Co.	.....	23.000	.....	.....	.....	E. 24.00	47.000
North Chicago Street Railroad Co.	17.00	83.000	.....	.....	.....	.....	100.000
North Side Electric St. Ry. Co.	.....	10.670	.....	.....	.....	.....	10.670
*Northwestern Elevated Road	.....	.....	.....	.....	.....	.....	.....
Ogden Street Railway Co.	.....	34.090	.....	.....	.....	E. 16.64	50.730
South Chicago City Railway Co.	.....	37.990	.....	.....	.....	.....	37.990
Union Elevated Railroad Co.	.....	.....	.....	.....	2.00	.....	2.000
West Chicago Street Railroad Co.	30.43	178.210	5.63	.....	.....	E. 7.57	216.840
Totals	82.18	748.936	10.86	10.70	25.92	73.71	952.306

*In course of construction.

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I would respectfully call your attention to Section 1756 of the Revised Code of 1897, which, in effect, provides that steam railway companies, and street railway companies, shall light all street crossings where their tracks cross or intersect.

The work of having the different companies comply with the ordinance has been carried forward with the following results:

The Chicago & Grand Trunk Railway; the Chicago, Rock Island & Pacific Railroad; the Chicago, Hammond & Western Railroad; New York, Chicago & St. Louis Railroad; Wabash Railroad; Western Indiana Railroad, have complied with the law and placed lights at the proper crossings.

The Atchison, Topeka & Santa Fe Railroad; Chicago, Burlington & Quincy Railroad; Illinois Central Railroad; Lake Shore & Michigan Central Railroad; P. C. C. & St. L. R'y (Pan Handle); Pittsburgh, Ft. Wayne & Chicago Railway, have agreed to comply with the ordinance and place lights at the proper crossings.

The Chicago & North-Western Railway; the Chicago Terminal Transfer Company; the Union Stock Yards & Transit Company; the Chicago, Milwaukee & St. Paul Railway, have the matter of lighting the street crossings under advisement.

The Chicago & Alton Railroad is the only steam railroad company or corporation that has positively refused to comply with the ordinance.

Orders have been issued to the various elevated railroads to place lights at the proper street crossings: South Side Elevated Railroad, 43 arc lights; Lake Street Elevated Railroad, 46 arc lights; The West Side "L" (Metropolitan), 65 arc lights.

You will note from the above report what a great benefit to the City it is going to be to have all dangerous crossings properly lighted.

I am profoundly grateful for the generous courtesy extended to me by your Department, and other city officials, with whom my duties brought me in contact.

The loyal support of my assistants, in the several departments of this Bureau, has been a material help in the performance of my duties.

Respectfully submitted,

M. J. DOHERTY,
Superintendent of Streets.

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REPORT OF THE

BUREAU OF

Street and Alley Cleaning

CITY OF CHICAGO

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BUREAU OF
STREET AND ALLEY CLEANING

ANNUAL REPORT BUREAU OF STREET AND ALLEY CLEANING, JANUARY 1, 1897, TO DECEMBER 31, 1897.

HON. L. E. McGANN,
Commissioner of Public Works:

DEAR SIR: I have the honor to submit the annual report of the Bureau of Street and Alley Cleaning for the year 1897, the work being done under the direction of the former Superintendent, Mr. John Fitzsimmons. This Bureau having been abolished and the duties of the same being merged into the Department of Streets, it devolves upon me to prepare the detail of the work of the Bureau for this report.

I respectfully call your attention to the financial statement of appropriation and sundry receipts and expenditures of the Department, from which you will observe that the appropriation made for this work was $28,125.00 less than for the preceding year. The only explanation that can be made by me as to the difference of miscellaneous receipts, is the fact that the Board of Park Commissioners threw open a public dumping ground at the foot of Chicago avenue, enabling the public, who had hitherto been paying for the privilege of dumping at City dumps, to utilize this dumping ground without the payment for the use of same to the city.

APPROPRIATION AND MISCELLANEOUS RECEIPTS.

Appropriation	$622,875 00	
Miscellaneous receipts	4,468 95	
Total		$ 627,343 95

EXPENDITURES.

STREET AND GARBAGE CLEANING UNDER CONTRACT AND BY CITY.

Garbage account	$ 295,502 71	
Street cleaning	279,663 83	
Office salaries	9,080 72	
Ward foremen	33,704 13	
Removal of dead animals	9,375 00	
Total		$ 627,326 39
Balance		$ 17 56

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STREET CLEANING UNDER CONTRACT.

During the year 3397.94 lineal miles of street in the First District were cleaned, under contract, at an expense of $8.00 per mile, or $27,183.52.

2346.89 lineal miles of streets in the Second District were cleaned, under contract, at an expense of $10.25 per mile, or $24,055.61.

3323.07 lineal miles of streets in the Third District were cleaned, under contract, at an expense of $12.00 per mile, or $39,876.84.

1999.55 lineal miles of streets in the Fourth District were cleaned, under contract, at an expense of $10.75 per mile, or $21,494.95.

2258.45 lineal miles of streets in the Fifth District were cleaned, under contract, at an expense of $10.00 per mile, or $22,584.50.

There were also 1842.97 lineal miles of streets cleaned by hand-work at an expense of $8.00 per mile, or $14,753.76.

The unimproved alleys, to the extent of 1134.70 lineal miles, were cleaned at a trifle over $9.00 a mile, or $10,857.00.

The improved alleys, to the extent of 1488.81 lineal miles were cleaned at a cost of $8.00 a mile, or $11,910.50.

STREET CLEANING PERFORMED BY THE CITY.

Work done by Street Department, $3,761.73.

Cost of removing snow from streets, $26,734.45.

Salaries of foremen of street cleaning, $21,329.16.

For building of a viaduct at Jackson street dump and for all miscellaneous supplies for the removal of snow, etc., $21,821.81; making a grand total for the cost of cleaning the streets and alleys of $279,663.83.

To remove the garbage and ashes from the thirty-four wards it took 83,706 teams, making 196,709 loads, amounting to 1,003,670 cubic yards, at a cost of $266,057.36.

The cost of maintaining City dumps, made up of salaries, supplies, etc., was $295,502.71.

Ward foremen account for salaries amounted to $33,704.15; office salary account, $9,080.72.

During the year 14,439 dead animals were removed. Of this number 3,215 were horses, 70 cows, 3 calves, 7 hogs, 21 goats, 10,771 dogs, 352 cats, at a cost of $9,375.00.

I have the honor to be

Very respectfully,

M. J. DOHERTY,

Superintendent of Streets.

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REPORT OF THE

Bureau of Special Assessments.

CITY OF CHICAGO.

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BUREAU OF SPECIAL ASSESSMENTS.

HON. L. E. McGANN,
Commissioner Public Works.

DEAR SIR:—I present herewith a statement of special assessments made and carried through the courts to confirmation by this department during the year ending December 31st, 1897.

At a time of year when this bureau was most actively engaged in the preparation of assessment rolls the legislature of this State enacted a law almost completely revolutionizing the mode of making special assessments.

This law has retarded the actual completion of many special assessments, and, at the same time, imposed upon the bureau an enormous amount of expensive preliminary detail work. This report, therefore, is not a fair criterion of the work done by the department, but it is a just commentary upon the actions of the Board of Local Improvements, in so much as it shows that the board has endeavored, to a self-sacrificing extent, to impose upon the property owners no assessment and no improvement that they did not require and ask for.

The new assessment law, so to speak, was enacted in the interest of the property owners entirely, and the Board of Local Improvements realizing that fact, has taken great pains to see that property owners were duly notified and consulted in connection with every assessment sought to be levied before proceeding with the same, and I beg leave to state that in every case where the majority of property owners have presented a majority objection, the scheme has been abandoned; and still further has the board gone in the interests of the property owners to the end that, where a respectable minority was opposed to the improvement, the same has either been abandoned or the property owners requested to inaugurate an improvement suitable to their ideas and their means.

In presenting this report I am fearful as to the criticism that perhaps will be bestowed upon the bureau for the small aggregate amount of work done as shown by the report, but, on the other hand, I believe the just criticism will emanate from the property owners, who cannot but say that their wishes and the law governing their interests and rights have been honestly and justly considered and acted upon.

Respectfully submitted,

J. S. SHEAHAN,
Superintendent Special Assessments.

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WOOD BLOCK PAVEMENT.

No. of War't.	IMPROVEMENT.	NAME OF STREET.	FROM	TO	AMOUNT.
22356	C. F. and P	System of streets	Angusta, Iowa, etc		$ 33,423 78
22387	C. G. and P	W. Twenty-sixth and Forty-	second ave. from S. Fortieth av.	S. Forty-second avenue	12,789 28
22388	C. G. and P	Fifty-seventh	State	So. Park avenue	14,934 40
22408	C. F. and P	S. Ashland avenue	Twenty-second	S. branch Chicago river	22,403 58
22412	C. F. and P	System of streets, Berlin	California avenue to Talman	avenue, etc	22,500 00
22420	C. G. and P	Hoyne avenue	Washington boulevard	Harrison	17,994 08
22423	C. G. and P	S. Center avenue	W. Van Buren	W. Twelfth	14,896 67
22428	C. G. and P	N. Claremont avenue	Grand avenue	W. Ohio	2,866 17
22431	C. G. and P	Augusta	Robey	Leavitt	8,286 97
22432	C. G. and P	Superior	State	Rush	8,708 00
22433	C. G. and P	Nelson	Blucher	Soult	2,902 56
22438	C. F. and P	Oak Grove avenue	N. Clark	Racine avenue	2,779 87
22439	C. F. and P	Thomas	Sacramento avenue	California avenue	7,629 68
22442	C. F. and P	Winnebago avenue	Western avenue	C., M. & St. P. Ry	5,820 60
22445	C. F. and P	Wood	Forty-seventh street	Fifty-first	19,989 38
22446	C. G. and P	W. Twelfth	S. Fortieth avenue	S. Forty-fourth avenue	17,988 85
22447	C. G. and P	Grace	Southport avenue	Ashland avenue	6,203 59
22451	C. G. and P	California avenue	W. Chicago avenue	Grand avenue	2,919 91
22453	C. F. and P	High	Fullerton avenue	Dunning	4,089 44
22601	C. G. and P	Wells	Chicago avenue	Illinois	11,523 61
22600	C. G. and P	Calumet avenue	Twenty-fourth	Twenty-sixth	6,795 89
22605	C. and P	Maxwell	Johnson	Canal	14,066 23
22610	C. F. and P	W. Eighteenth	Western avenue	California avenue	16,793 95
22657	C. F. and P	E. Ravenswood Park	Estes avenue	Pratt avenue	8,454 10
22721	G. and P	Rush	Ohio	Chicago avenue	4,706 27
22726	C. G. and P	Law avenue	W. Harrison	Polk	4,337 50
22735	C. F. and P	Hermitage avenue	Forty-seventh	Fifty-first	20,000 00
22781	C. G. and P	System of streets, McLean,	Ballou, etc		32,000 00
22783	C. F. and P	Butler	Forty-fourth	Forty-seventh	13,531 14
22795	C. G. and P	Union	W. Twelfth	75 feet south of Fifteenth	11,152 08
22819	C. G. and P	Herndon	Roscoe	Belmont avenue	7,500 00
22921	C. G. and P	Vernon avenue	Twenty-ninth	236 feet north	1,739 84
22922	C. F. and P	Marvin	Oakley avenue	Western avenue	3,280 77
22923	C. F. and P	Hermitage avenue	Armitage avenue	Paulina	3,045 00
22925	C. G. and P	Sangamon	Van Buren	Lake	14,292 64
22936	C. G. and P	Fulton	Morgan	Halsted	10,248 72

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22941	C. F. and P.	Paulina	Forty-seventh	Fifty-first	19,742 20
22953	C. G. and P.	Spaulding avenue	W. Madison	Jackson boulevard	5,814 53
22997	C. F. and P.	So. Chicago avenue	Ninety-first	Ninety-second	13,189 80
22999	C. G. and P.	Tremont	Stewart avenue	Wallace	8,587 35
23029	C. F. and P.	Duncan Park	Stewart avenue	Princeton avenue	3,911 28
23059	C. F. and P.	Twelfth	Forty-fourth avenue	Forty-sixth avenue	6,000 00
23072	C. F. and P.	Langdon	Clybourn avenue	Uhland	1,951 41
23074	C. F. and P.	Rockwell	Chicago avenue	Augusta	7,915 45
23076	C. F. and P.	Wabansia avenue	Kedzie avenue	Central Park avenue	13,683 40
23090	C. F. and P.	Ada	Forty-seventh	Forty-ninth	10,000 00
23098	C. F. and P.	System of streets, Sixty-fourth,	Sixty-fifth, Loomis, etc.		52,921 52
	Total				$551,260 39

MACADAM PAVEMENT.

No. of War'nt.	IMPROVEMENT.	NAME OF STREET.	FROM	TO	AMOUNT.
22429	C. F. and M.	Dearborn	Fifty-ninth	481 feet south	$ 4,742 46
22440	C. F. and M.	Marvin Place	Park avenue	W. Randolph	2,500 00
22448	C. F. and M.	Seventy-first	State	Perry avenue	5,495 85
22594	C. F. and M.	Pine Grove avenue	Sheridan road	180 feet north	768 23
22595	C. G. and M.	Wrightwood avenue	Central Park avenue	Hamlin avenue	4,500 00
22596	C. G. and M.	Fiftieth	Grand boulevard	Cottage Grove avenue	10,685 11
22597	C. G. and M.	Forty-sixth	Woodlawn avenue	Greenwood avenue	3,500 00
22598	C. G. and M.	Wrightwood avenue	Logan Square	Kimball avenue	4,000 00
22599	C. F. and M.	Berwyn avenue	Winthrop avenue	C. E. & L. S. R. R.	1,096 47
22670	C. G. and M.	Greenleaf avenue	Alley W. of Ridge avenue	Western avenue	7,414 24
22727	C. F. and M.	Troy	Ohio	Kinzie	5,098 80
22818	C. F. and M.	Crescent place	Halsted	Evanston avenue	3,046 42
23032	C. G. and M.	Thirty-third	Dearborn	Michigan avenue	4,687 54
23096	C. G. and M.	120th	Clinton	Halsted	6,237 00
23097	C. F. and M.	Sawyer ave	Chicago avenue	Kinzie	13,444 47
	Total				$ 77,216 59

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VITRIFIED BRICK PAVEMENT.

No. of War't.	IMPROVEMENT.	NAME OF STREET.	FROM	TO	AMOUNT.
22392	C. G. and P.	Farwell avenue	C. & N.-W. Ry.	770 feet east of Evanston ave.	$ 36,024 65
22406	G. and P.	Ninety-second	Exchange avenue	Harbor avenue	16,918 78
22436	C. G. and P	North avenue	LaSalle avenue	Clybourn avenue	27,173 42
22955	C. F. and P.	Evanston avenue	North Fifty-ninth	Lawrence avenue	25,000 09
22981	G. and P.	Dearborn	Jackson boulevard	Polk	14,581 19
	Total				$119,698 13

ASPHALT PAVEMENT.

No. of War't.	IMPROVEMENT.	NAME OF STREET.	FROM	TO	AMOUNT.
22593	C. G. and P.	Clifton Park avenue	Douglas Park boulevard	Ogden avenue	$ 29,500 00
22607	C. F. and P	System of Sts., Drexel ave., Ingleside, etc.			152,765 93
22773	C. G. and P.	Cottage Grove avenue	Twenty-second	Thirty-third	74,000 00
22796	C. G. and P.	North Clark	Kinzie	Division	55,611 50
22990	C. F. and P	Cornelia	Western avenue	Rockwell	13,275 92
22992	C. G. and P.	Wells	Illinois	Chicago avenue	22,452 82
22998	C. F. and P.	Carroll avenue	Fortieth avenue	Forty-sixth avenue	36,307 15
23081	C. F. and P.	Humboldt	Western avenue	California avenue	27,340 54
23082	C. F. and P.	Troy	Chicago avenue	Ohio	11,419 70
23099	C. F. and P	Harvard	Fortieth	Forty-second	12,799 19
	Total				$435,472 75

GRANITE BLOCK PAVEMENT.

No. of War't.	IMPROVEMENT.	NAME OF STREET.	FROM	TO	AMOUNT.
22797	G. and P.	Canal	Adams	Van Buren	$ 14,598 22
23.01	C. G. and P.	Jefferson	Lake	Austin avenue	14,175 02
	Total				$ 28,773 24

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ALLEYS—CEDAR BLOCK PAVEMENT.

No. of Warn't.	IMPROVEMENT.	BETWEEN.	AMOUNT.
22407	C. G. and P.	Thirty-first street and Thirty-third street and LaSalle street and Armour avenue.	$ 5,383 99
22430	C. G. and P.	Blackhawk, Connors, Hudson and Cleveland	1,524 97
22579	C. F. and P.	Elm street, Hobbie street, Larrabee street and Gault place	929 63
22653	C. G. and P.	Congress street and Harrison street and Sangamon street and Morgan street	752 18
22654	C. G. and P.	Talman avenue, 375 feet west, Park avenue and Washington street	579 54
22655	C. G. and P.	North of Van Buren, Loomis and Throop streets	1,412 36
22800	C. F. and P.	Thirty-ninth street, Oakwood avenue, Ellis avenue and Lake avenue	390 57
22861	C. F. and P.	Willow, Bissell, Dayton and Fremont streets	1,119 37
23052	C. G. and P.	Rockwell street, Campbell avenue, Park avenue and Washington boulevard	2,157 62
23075	C. G. and P.	Webster, Garfield, Racine avenues and Lewis street	1,376 14
	Total		$ 15,626 37

ALLEYS—ASPHALT PAVEMENT.

No. of Warn't.	IMPROVEMENT.	BETWEEN.	AMOUNT.
22393	C. G. and P.	Twenty-first street and Twenty-second street, Prairie and Calumet avenues	$ 2,323 91

STREETS—CURBING AND FILLING.

No. of War'nt.	IMPROVEMENT.	NAME OF STREET.	FROM	TO	AMOUNT.
22589	C. and F.	Hoyne avenue	Archer avenue	Thirty-fourth	$ 2,056 55

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STREETS AND ALLEYS—OPENING AND WIDENING.

No. of War'nt	IMPROVEMENT.	NAME OF STREET.	FROM	TO	AMOUNT.
22384	Opening	Alley between Sacramento,	Francisco, Lexington and	Polk	$ 2,685 25
22385	Widening	Indiana avenue	Fifty-first	Fifty-fifth	31,997 74
22386	Opening and Widening	Oglesby avenue	Seventy-first	Eighty-third	30,000 00
22410	Widening	Lakeside Place	Clarendon avenue	Lake Michigan	2,474 00
22421	Widening	Pine Grove avenue	Graceland avenue	Byron	3,917 30
22422	Widening	S. Paulina	W. Thirty-eighth	W. Thirty-ninth	1,518 00
22592	Opening	Wright	Seventy-third	Seventy-fourth	5,224 00
23083	Widening	Drake avenue	Huron	Ohio	3,398 00
23084	Opening	Alley between Forty-ninth,	Fiftieth, Vincennes avenue and	Forestville avenue	3,697 00
23085	Opening	Fifty-fourth	Grand avenue	C. M. & St. P. R. R.	1,640 82
23086	Widening	Rockwell	Division	Haddon avenue	4,436 00
23087	Opening	Mozart	Diversey avenue	Humboldt Park boulevard	3,914 00
	Total				$ 94,902 11

WATER SUPPLY PIPES.

No. of War'nt	NAME OF STREET	FROM	TO	AMOUNT
22389	North Fortieth avenue	130 ft. N. of W. Montrose avenue	Peterson avenue	$ 10,705 74
22394	Butler	Ninty-seventh	One-hundredth	2,506 99
22402	Hirsch	N. Homan avenue	N. Spaulding avenue	1,023 01
22409	Iowa	Rockwell	Campbell avenue	796 56
22417	Kedzie avenue	Belmont avenue	W. Grace	6,095 00
22427	E. Ravenswood park	Foster avenue	Winnemac avenue	1,140 84
22462	Grenshaw	S. Forty-second avenue	West 580 feet	648 08
22463	N. Talman avenue	Wellington	Diversey avenue	1,826 87
22464	Kimball avenue	W. Grace	W. Byron	900 88
22465	S. Forty-first court	W. Sixteenth	South 300 feet	458 48
22466	W. Byron	Kimball avenue	Bernard avenue	440 97
22467	S. Forty-fourth avenue	Jackson	Gladys avenue	369 90

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22468	Fillmore	Fortieth avenue	Forty-first avenue	815 18
22469	N. Western avenue	Winona avenue	Winnemac avenue	1,420 41
22470	N. Forty-first court	Eastwood avenue	Choctaw avenue	1,206 17
22471	Harvard	S. Forty-first avenue	S. Forty-first court	378 11
22472	W. Thirty-first	S. Harding avenue	S. Fortieth avenue	532 64
22473	W. Twelfth	S. Forty-fourth avenue	S. Forty-sixth avenue	2,635 27
22474	N. Ridgeway avenue	W. Division	250 ft. N. of Thomas	483 20
22475	Choctaw avenue	N. Forty-first avenue	Selwyn avenue	1,486 82
22476	S. Harding avenue	W. Thirty-first	W. Thirty-second	769 54
22477	S. Harding avenue	W. Sixteenth	W. Twenty-first	1,720 19
22586	S. Fortieth avenue	W. Twenty-fifth	W. Twenty-sixth	884 04
22590	W. Sixty-ninth	Sangamon	Loomis	3,969 40
22650	Winthrop avenue	Lawrence avenue	Ainslie	1,049 77
22658	Centre avenue	Eighty-seventh	Eighty-eighth	508 38
22720	S. Fortieth avenue	Sixteenth	Eighteenth	1,168 68
22748	N. Fifty-first avenue	Catalpa avenue	Elston avenue	1,281 15
22749	Rokeby	Sheridan road	Grace	606 80
22750	N. Forty-third court	Hirsch	Grand avenue	1,302 57
22751	N. Forty-fourth avenue	Hirsch	W. North avenue	1,775 94
22782	W. Division	Springfield avenue	N. Fortieth avenue	1,220 98
22814	Harvard	Douglas boulevard	Springfield avenue	689 20
22815	Harvard	S. Fortieth avenue	East 290 feet	327 67
22907	W. Belden avenue	N. Forty-ninth avenue	N. Fiftieth avenue	745 85
22908	Carroll avenue	100 ft. W. of N. Forty-fifth avenue	N. Forty-sixth avenue	552 20
22909	N. Forty-eighth avenue	Fullerton avenue	Medill avenue	460 54
22910	N. Ashland avenue	Catalpa, N. Paulina, etc., etc		4,728 00
22912	N. Humboldt	Wellington	250 ft. N. of W. George	522 24
22913	N. Francisco avenue	Humboldt boulevard	300 ft. S. of Diversey	1,024 06
22915	Wisner avenue	Milwaukee avenue	Wellington	1,070 12
22916	Christiana avenue	W. Diversey avenue	250 ft. N. of W. Diversey avenue	315 80
22943	Indiana avenue	Ninety-ninth	100th	967 78
22944	W. Montrose avenue	N. Forty-eighth court	N. Fiftieth avenue	1,446 67
22945	Lincoln	W. Sixty-first	W. Sixty-third	1,552 56
22947	Sixteenth	Hamlin avenue	Homan avenue	3,565 02
22961	N. Mozart	Humboldt boulevard	Schubert avenue	766 45
22962	Monroe avenue	Sixty-eighth	South 390 ft	236 59
22963	Kedzie avenue	Beach avenue	Division	1,994 50
22984	System of streets	St. Lawrence avenue	Etc., etc	1,791 85
23003	W. S. of Central boulevard	Augusta	Sacramento square	2,956 55
23011	Forty-first avenue	Hirsch	North avenue	1,351 64
23014	W. Twenty-third	Sawyer avenue	Turner avenue	962 24
23015	Alley S. of Sixtieth	Cottage Grove avenue	Lexington avenue	2,563 76

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WATER SUPPLY PIPES—CONTINUED.

No. of War't	NAME OF STREET	FROM	TO	AMOUNT
23016	Sixtieth	Cottage Grove avenue	181½ ft. E. of Rhodes avenue	1,635 88
23017	Cornelia	Wilton avenue	Sheffield avenue	410 22
23027	Maplewood avenue	Eighty-first	Eighty-third	1,946 74
23028	Langley avenue	Forty-ninth	Fiftieth	680 28
23040	Lowe avenue	160 ft. S. of Fifty-ninth	Sixtieth	1,080 13
23041	Vincennes avenue	260 ft. S. of Sixty-sixth	Sixty-seventh	618 50
23043	Loomis	40 ft. N. of Fifty-sixth	Fifty-ninth	2,494 31
23044	Hamlin avenue	Diversey avenue	George	961 42
23045	Wayne avenue	Devon avenue	Granville avenue	1,698 62
23046	Lakewood avenue	Devon avenue	Grand avenue	1,711 82
23047	W. Seventy-third	Emerald avenue	Lowe avenue	971 58
23048	Division	Kedzie avenue	West 300 ft.	666 54
23049	South Chicago avenue	Eighty-seventh	Manistee avenue	4,986 23
23053	Fullerton avenue	Humboldt boulevard	N. Central Park avenue	4,720 88
23060	Monticello avenue	Thomas	Augusta	893 30
23064	N. Avers avenue	Chicago avenue	Augusta	1,476 10
	Total			$109,640 90

WATER SERVICE PIPES.

No. of War't	NAME OF STREET	FROM	TO	AMOUNT
22348	Harrison	Fortieth	Forty-sixth	$ 3,740 00
22366	Tremont	Stewart avenue	Wallace	870 50
22379	W. Huron	Central Park avenue	Kedzie avenue	602 00
22380	W. Huron	Central Park avenue	N. Fortieth avenue	752 50
22381	Catalpa place	Humboldt boulevard	Edgewood avenue	1,121 00
22382	S. Wood	Forty-seventh	Fifty-first	1,539 00
22397	N. Hamlin avenue	Chicago avenue	North avenue	4,273 50
22401	Crawford avenue	Center	Everett	1,972 00
22404	Washtenaw avenue	Washington boulevard	Harrison	227 50
22413	Seventy-first	Stony Island avenue	I. C. R. R.	700 00

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22424	Ada	Fifty-fifth	Fifty-ninth	1,657 50
22450	Seventy-second	Cottage Grove avenue	S. Park avenue	108 00
22576	Marshfield avenue	Forty-fifth	Forty-seventh	462 00
22577	Spaulding avenue	Twenty-fourth	Twenty-sixth	1,140 00
22578	S. Avers avenue	W. Twenty-second	C., B. & Q. R. R	551 00
22644	Robey	Forty-seventh	Fifty-first	2,394 00
22645	Winthrop avenue	Lawrence avenue	Ainslie	1,159 00
22678	Forty-seventh	Paulina	Western avenue	4,332 00
22679	Allen avenue	Milwaukee avenue	Kimball avenue	1,258 00
22680	Wellington avenue	Kedzie avenue	C. & N. W. R. R	570 00
22681	Gresham avenue	Milwaukee avenue	Noble avenue	1,131 00
22682	Dawson avenue	Milwaukee avenue	Wellington avenue	1,122 00
22683	Kimball avenue	Belmont avenue	Wellington avenue	1,007 00
22684	Christiana avenue	Wellington avenue	Belmont avenue	1,216 00
22685	Spaulding avenue	Diversey avenue	Belmont avenue	1,729 00
22686	Drake avenue	Elbridge avenue	Belmont avenue	703 00
22687	Christiana avenue	Milwaukee avenue	George	513 00
22688	Woodard avenue	Milwaukee avenue	Spaulding avenue	697 00
22689	Wisner avenue	Milwaukee avenue	Wellington avenue	1,139 00
22690	Eberly avenue	Belmont avenue	Noble avenue	494 00
22691	Bernard	Noble avenue	Belmont avenue	608 00
22692	Francisco avenue	Fullerton avenue	Diversey avenue	2,128 00
22693	Mozart	Fullerton avenue	Diversey avenue	2,147 00
22694	Humboldt	C. & N. W. R. R	Diversey avenue	1,159 00
22695	Humboldt	Milwaukee avenue	Diversey avenue	1,729 00
22696	Central Park avenue	Harrison	Twelfth	1,406 00
22697	Cornelia	Western avenue	Rockwell	855 00
22698	Elbridge avenue	N. Central Park avenue	Noble avenue	1,083 00
22274	S. S. of Diversey avenue	Lawndale avenue	Central Park avenue	370 00
22725	W. Twenty-sixth	S. Fortieth avenue	S. Forty-second avenue	1,764 00
22728	Morgan	Sixty-fifth	Sixty-ninth	1,976 00
22762	Crescent place	Evanston avenue	Clarendon avenue	468 00
22763	Rice	Washtenaw avenue	Rockwell	703 00
22764	N. Sawyer avenue	Armitage avenue	Fullerton avenue	2,128 00
22765	Carpenter	Sixty-seventh	Sixty-ninth	1,007 50
22798	Wentworth avenue	Forty-seventh	Sixty-third	1,805 00
22862	N. Forty-first court	Montrose avenue	Irving Park avenue	945 00
22863	W. Kinzie	Fortieth	Forty-sixth	950 00
22864	Forty-second avenue	Berteau avenue	Montrose avenue	756 00
22865	Sunnyside avenue	Robey	Lincoln avenue	714 00
22866	S. Forty-first avenue	Madison	Kinzie	210 00

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WATER SERVICE PIPE—CONTINUED.

No. of War'nt	NAME OF STREET	FROM	TO	AMOUNT
22867	Berenice avenue	Lincoln avenue	W. Ravenswood park	487 50
22868	Fulton	N. Forty-fourth avenue	N. Forty-sixth avenue	760 00
22869	Sacramento avenue	Twenty-second	Twenty third	370 50
22870	Robey	Archer avenue	Thirty-ninth	1,596 00
22871	Grenshaw	S. Fortieth avenue	S. Forty-first avenue	722 00
22872	Grenshaw	S. Forty-first avenue	S. Forty second avenue	779 00
22885	Evergreen avenue	Kedzie avenue	Homan avenue	1,539 00
22914	Robey	Fifty-first	Fifty-fourth	1,947 50
22924	Homan avenue	W. Twenty-second	W. Twenty-sixth	2,448 00
22927	Wood	Forty-third	Forty-seventh	1,729 00
22928	Monticello avenue	Chicago avenue	Grand avenue	2,451 00
22929	Harding avenue	Chicago avenue	Augusta	817 00
22930	Laflin	Sixty-fifth	Sixty-seventh	1,463 00
22931	Justine	Sixty-fifth	Sixty-seventh	1,387 00
22932	N. Lawndale avenue	Chicago avenue	Division	2,606 25
22934	N. Ridgeway avenue	Chicago avenue	Division	2,318 00
22942	Lincoln	Forty seventh	Fifty-first	1,674 00
22949	Marvin	Oakley avenue	P. H. R. R	402 50
22957	Sixty-ninth	Halsted	Ashland avenue	2,394 00
22979	Homan avenue	Central Park boulevard	Chicago avenue	2,232 00
23033	Ewing avenue	100th	102d	1,555 50
23073	Avenue (Ave. N.) L	Ninty-fifth	110th	9,207 00
23079	Harvard	Douglas boulevard	S. Fortieth avenue	1,432 00
23100	Forty-second avenue	Twenty-sixth	Thirty-first	2,661 00
				$ 108,560 75

SEWERS.

No. of War'nt	NAME OF STREET	FROM	TO	AMOUNT
22349	Southport avenue	Granville avenue	Glenlake avenue	1,827 78
22350	Hood avenue	Southport avenue	Evanston avenue	1,692 55
22352	Indianapolis avenue	Avenue K.	102nd	2,716 09

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22367	System, Lawndale avenue, Columbia, etc.			3,578 47
22395	System, N. Forty-third avenue, N.	Forty-fifth avenue, W. Division, etc.		4,775 76
22419	N. Lawndale avenue	Diversey avenue	304 ft. S. of Schubert avenue	1,480 65
22425	112th	C. & W. I. R. R	Alley W. of Michigan avenue	4,919 53
22435	System, N. Hamlin avenue, W. Diversey avenue, etc.			8,091 75
22437	S. Paulina	Fifty-first	Fifty-fourth	2,445 03
22568	Iowa	N. Hoyne avenue	Alley east of N. Leavitt	784 08
22569	N. Leavitt, Rice to Thomas, Cornelia	street, etc		3,060 54
22570	Cortez	N. Hoyne avenue	Alley east of N. Leavitt	784 79
22571	N. Fiftieth court	Armitage avenue	Humboldt avenue	2,358 37
22580	South place	Evanston avenue	Magnolia avenue	392 35
22587	Sherwin avenue	Alley west of Sheridan Road	30 ft. E. of C. M. & St. P. R. R	728 02
22588	Sherwin avenue	Alley east of Sheridan Road	East 248 feet	337 13
22604	N. Forty-third court	W. Wilson avenue	West Berteau avenue	4,137 66
22608	N. Lawndale avenue	Fullerton avenue	Wrightwood avenue	2,162 18
22609	Indiana avenue	Brackett	Seventy-first	6,678 24
22635	N. S. Central boulevard	Albany avenue	Sacramento avenue	598 05
22636	S. S. Central boulevard	St. Louis avenue	Trumbull avenue	567 08
22637	W. S. Central boulevard	Augusta	50 feet N. of Grand avenue	1,538 09
22638	N. S. Central boulevard	N. Central Park avenue	Monticello avenue	576 00
22639	N. Lawndale avenue	W. North avenue	60 feet N. of Le Moyne	842 48
22640	N. Lawndale avenue	Hirsch	20 feet S. of Le Moyne	872 78
22641	W. Twenty-sixth	S. Ridgeway avenue	West 107 feet	163 35
22642	Monroe avenue	Sixty-eighth	Seventieth	1,977 10
22648	Seventy-fourth	Stony Island avenue	Alley E. of Washington avenue	653 28
22651	Kensington avenue	Prairie avenue	Alley E. of Michigan avenue	1,282 66
22652	Kensington avenue	Prairie avenue	Front, etc., etc	3,251 80
22659	103d, from Wentworth avenue to Michigan avenue and Michigan avenue from		102nd street to 110th street	20,806 78
22663	Perry avenue	Pratt avenue	300 feet N. of Albion avenue	1,351 90
22671	Southport avenue	Albion avenue west and east of Southport avenue		392 25
22672	Paulina	Diversey avenue	Alley N. of Wrightwood avenue	1,561 00
22673	Cortland	N. Forty-eight avenue, etc., etc		1,762 74
22674	N. Ridgeway avenue	West Diversey avenue	West George	1,097 45
22675	N. Ridgeway avenue	Milwaukee avenue	West George	1,546 54
22676	W. 118th	Emerald avenue	Halsted, etc., etc	1,020 04
22677	Alley between Madison and Warren avenue	Kedzie avenue	West 860 feet	1,332 24
22736	Park avenue	Forty-sixth avenue	Forty-eighth avenue	2,307 10
22737	S. S. W. Washington	Forty-sixth avenue	Forty-eighth avenue	2,051 07
22738	W. Polk	Forty-sixth avenue	Forty-seventh avenue	1,013 37
22739	N. S. W. Washington	Forty-sixth avenue	Forth-eighth avenue	2,051 07
22740	N. S. W. Madison	Forty-sixth avenue	Forty-seventh avenue	1,013 63
22741	Lexington	Forty-sixth avenue	Forty-seventh avenue	1,013 37

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SEWERS—CONTINUED.

No. of War'nt	NAME OF STREET	FROM	TO	AMOUNT
22742	Harvard	Forty-sixth avenue	Forty-seventh avenue	1,013 87
22743	Lexington	Forty-seventh avenue	Alley E. of Forty-eighth avenue	720 90
22744	Harvard	Forty-seventh avenue	Alley E. of Forty-eighth avenue	744 00
22745	N. Hamlin avenue	McLean avenue to	Dickens avenue, etc	1,565 65
22746	W. Polk	S. Forty-seventh avenue	S. Forty-eighth avenue, etc	2,094 58
22747	W. Van Buren	S. Forty-sixth avenue	S. Forty-seventh avenue	1,039 81
22752	Maplewood avenue	Elston avenue	W. Diversey avenue	1,397 76
22753	114th	Indiana avenue	Alley E. of Michigan avenue	972 48
22754	Byron	N. Hermitage avenue	Alley W. of Ashland avenue	1,053 78
22755	Cornelia	N. Rockwell	N. Washtenaw avenue	985 80
22756	Dickens avenue	Ballou	Hancock avenue	1,500 00
22757	Flournoy	S. Forty-seventh avenue	S. Forty-eighth avenue, etc	2,043 78
22770	Monticello avenue	Fullerton avenue	Alley S. of Wrightwood avenue	1,905 33
22776	Linden avenue	Montrose avenue	N. Forty-third avenue	2,526 31
22777	W. Erie	N. Forty-eighth avenue	N. Fiftieth avenue	3,002 62
22778	W. 116th	Wentworth avenue	105 ft. E. of Perry avenue	1,415 40
22779	W. 118th	Wentworth avenue	105 ft. E. of Perry avenue	1,415 40
22780	Craft	School	55 ft. N. of Belmont avenue	727 60
22790	S. S. Central boulevard	N. Albany avenue	N. Whipple, etc	1,231 45
22791	Perry avenue	Albion avenue	305 ft N. of Devon avenue	1,268 45
22792	Armitage avenue	N. Forty-eighth avenue	Grand avenue	4,848 90
22793	Grand avenue	N. Forty-eighth avenue	C. & N.-W. R. R	3,118 45
22874	A line 863 ft. E. of and parallel with Sheridan Road	Lawrence avenue	Lafayette Parkway, etc	2,848 33
22883	Austin avenue	N. Forty-eight avenue	N. Fiftieth avenue	2,240 33
22884	System	W. 119th	La Salle, etc	6,665 55
22887	System	N. Central Park avenue	Medill avenue, etc	15,577 84
22888	System	N. Central Park avenue	Dickens avenue, Castello avenue, etc	6,769 30
22937	N. S. W. Kinzie	N. Forty-sixth avenue	N. Forty-eighth avenue	1,901 14
22938	Austin avenue	N. Forty-stxth avenue	N. Forty-eighth avenue	1,845 06
22939	W. Indiana	N. Forty-sixth avenue	N. Forty-eighth avenue	1,751 78
22940	W. Adams	S. Forty-sixth avenue	S. Forty-seventh avenue	816 80
22952	113th	Wentworth avenue to Michigan avenue,	etc	13,161 15
22956	58th	South Park avenue	Calumet avenue	4,244 35
22964	Medill avenue	Forty-eighth avenue	Fiftieth avenue	2,296 57
22965	North Seventieth avenue	Fullerton avenue	C. M. & St. P. R. R	1,363 68
22966	O'Brien avenue	Grand avenue	Wabansia avenue	1,192 72

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22967	Washtenaw avenue	Belmont avenue	80 feet south of Noble avenue	1,186 18
22968	Hamlin avenue	Sixteenth	North 300 feet	505 65
22969	North Fifty-first avenue	Grand avenue	C. M. & St. P. R. R.	744 25
22970	Claremont avenue	Thirty-fifth	Alley south-east of Bross avenue	1,816 65
22975	Harding avenue	Wabansia avenue	Bloomingdale road	1,022 66
22985	Alley between Walnut, Fulton, Ked	zie and Homan avenue		1,888 55
22986	Avenue K	102nd	295 feet south of 104th	2,332 71
22991	System	115th, La Salle, etc.		8,143 28
23000	Evans avenue	Forty-ninth	Fiftieth	867 38
23001	Alley east of Grand boulevard	Forty-ninth	Fiftieth	532 32
23006	W. S. Central boulevard	900 feet north of Ohio	75 feet south of Sacramento avenue	1,510 00
23007	S. S. Central boulevard	Homan avenue	Spaulding avenue	1,205 18
23008	Canal	Archer avenue	30 feet north of Twenty-second place	666 00
23009	Bishop	Sixty-ninth	Seventieth	1,037 40
23010	Avenue J	Ninety-ninth	100th	1,025 00
23012	Castello avenue	Kimball avenue	Hancock avenue	2,458 00
23013	Adams	Forty-seventh avenue	Forty-eighth avenue	976 22
23018	Spaulding avenue	Madison	Adams	719 25
23026	Washtenaw avenue	Harrison	Van Buren	476 87
23037	Lincoln	Forty-third	Forty-sixth	2,099 65
23038	Marcy	Sheffield avenue	Clybourn Place	3,135 48
23042	Sixty-first	180 feet west of Prairie avenue	150 feet east of Calumet avenue	1,138 20
23050	Elizabeth	Fifty-eighth	South 223 feet	324 74
23051	Parnell avenue	Ninety-ninth	Alley north of 103rd	4,265 12
23054	Forty-sixth	Laflin	East 590 feet	776 48
23055	Rodgers avenue Murphy avenue	Central Rogers avenue	Murphy avenue Birchwood avenue	2,725 06
23056	Forty-sixth	Greenwood avenue	East 460 feet	840 00
23057	Seventy-fifth	Langley avenue	Alley west of Cottage Grove avenue	588 50
23058	Sixty-eight	Centre avenue	May	683 03
23062	Central boulevard	Homan avenue	80 feet east of Sawyer avenue	1,940 10
23063	System, West North avenue, North	Forty-fourth avenue, North Forty-fifth	avenue, etc., etc.	7,109 70
23065	Fulton	Forty-sixth avenue	Forty-eighth avenue	2,221 55
23068	Alley west of Drexel boulevard bet	ween Forty-fifth street and 198 feet south		190 69
	Total			$256,850 66

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No. of War'nt	NAME OF STREET	FROM	TO	AMOUNT
22354	W. Twelfth	S. Fortieth avenue	S. Forty-sixth avenue	$ 2,795 00
22368	Flournoy	Central Park avenue	Lawndale avenue	407 00
22369	Farwell avenue	C. & N. W. Ry	Lake Michigan	832 00
22370	Winthorp avenue	Lawrence avenue	Ainslie	671 00
22371	Fullerton avenue	Kedzie avenue	N. Fortieth avenue	5,320 00
22372	Sawyer avenue	Twenty-fourth	Twenty-sixth	858 00
22373	Ninety-first	Exchange avenue	S. Chicago avenue	375 00
22374	Crescent place	Evanston avenue	N. Halsted	517 00
22375	Superior avenue	Ninety-second	Ninety third	224 00
22376	Loomis	Sixty-third	Sixty-seventh	1,560 00
22377	S. Chicago avenue	Eighty-seventh	Ninety-first	3,402 00
22378	Bishop	Sixty-third	Sixty-seventh	1,507 00
22396	Wentworth avenue	Fifty-fifth	Sixty-third	2,761 25
22403	S. Normal parkway	Butler	C., R. I. & P. R. R	412 50
22418	Sheridan road	Foster avenue	Montrose boulevard	3,075 50
22434	Forty-seventh	Paulina	Western avenue	2,538 00
22444	Ellis avenue	Seventy-fourth	Seventy-fifth	450 00
22449	Lincoln	Forty-seventh	Fifty-first	1,418 40
22478	S. May	Sixty-seventh	Sixty-eighth	330 00
22479	Union avenue	118th	119th	241 50
22480	W. Forty-fifth place	Wallace	Wabash R. R	517 00
22481	Cortez	Robey	Leavitt	561 00
22482	Wabansia avenue	Kedzie avenue	Central Park avenue	572 00
22483	Laflin	Sixty-third	Sixty-seventh	1,276 00
22484	N. Ridgeway avenue	Chicago avenue	Division	1,572 00
22485	Turner avenue	Jackson boulevard	Van Buren	168 00
22486	Harvard	S. Fortieth avenue	S. Forty-second avenue	726 00
22487	W. Huron	Kedzie avenue	N. Fortieth avenue	3,190 20
22488	Sixty-seventh	Loomis	Ashland avenue	869 00
22489	N. Harding avenue	Augusta	W. Chicago avenue	768 00
22490	Argyle	Clark	Evanston avenue	1,080 00
22554	Cornelia	Robey	Leavitt	660 00
22555	Ridge avenue	Evanston avenue	N. Clark	2,090 00
22556	S. Hermitage avenue	Forty-fifth	Forty-seventh	429 00
22557	Marshfield avenue	Forty-fifth	Forty-seventh	473 00
22558	Eberly avenue	Belmont avenue	Noble avenue	384 00

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22559	Potwyn place	N. Hamilton avenue	N. Leavitt	175 50
22560	S. Fortieth avenue	W. Taylor	W. Twelfth	288 00
22561	S. Avers avenue	Twenty-second	Chicago, Burlington & Quincy railroad	341 00
22562	Sunnyside avenue	N. Robey	Lincoln avenue	378 00
22563	Goodspeed	Forty-third	Forty-seventh	1,023 00
22564	Oakley avenue	Fullerton avenue	Ems	513 00
22565	Kimball avenue	Belmont avenue	Wellington	715 00
22566	S. Forty-fifth avenue	W. Madison	W. Harrison	550 00
22567	Thirty-seventh place	Gage	S. Morgan	192 00
22591	Sixty-ninth	Halsted	Ashland avenue	3,478 00
22611	Thirty-fifth place	S. Halsted	S. Morgan	230 50
22625	Wrightwood avenue	Logan Square	Hamlin avenue	2,676 00
22630	Bernard	Noble avenue	Belmont avenue	384 00
22631	Gresham avenue	Milwaukee avenue	Noble avenue	825 00
22632	Spaulding avenue	Twenty-fourth	Twenty-sixth	704 00
22633	Marshfield avenue	Sixty-third	Sixty-fifth	913 00
22634	Monticello avenue	W. Chicago avenue	Grand avenue	1,536 00
22646	Cornelia	Western avenue	Rockwell	572 00
22647	Francisco	Fullerton avenue	Diversey avenue	1,320 00
22648	Humboldt	Milwaukee avenue	Diversey avenue	852 00
22649	Mozart	Fullerton avenue	Diversey avenue	1,368 00
22656	N. Hamlin avenue	Chicago avenue	W. North avenue	3,160 75
22699	Thirty-fourth place	Wood	Robey	612 00
22700	Elbridge avenue	Central Park avenue	Noble avenue	660 00
22701	S. S. Diversey avenue	Lawndale avenue	Central Park avenue	275 50
22702	Iowa	California avenue	Rockwell	517 00
22703	Grenshaw	S. Fortieth avenue	S. Forty-second avenue	876 00
22722	S. Forty-second avenue	Twenty-sixth	Twenty-seventh	308 00
22723	W. Twenty-sixth	S. Fortieth avenue	S. Forty-second avenue	1,092 00
22758	W. Eighteenth	Western avenue	West $514\frac{3}{10}$ feet	218 50
22759	Iowa	Hoyne avenue	Leavitt	360 00
22760	Leavitt	Chicago avenue	Division	1,668 00
22761	Crystal	Spaulding avenue	Homan avenue	203 00
22766	Sawyer avenue	Humboldt avenue	Armitage avenue	594 00
22767	Christiana avenue	Division	Grand avenue	456 00
22768	Christiana avenue	Wellington	Belmont avenue	912 00
22774	Kimball avenue	Diversey avenue	W. Wrightwood avenue	696 00
22784	Aberdeen	Sixty-third	Sixty-seventh	1,368 00
22785	S. Hermitage (Evarts) avenue	Forty-seventh	Fifty-first	242 00
22873	N. Troy	Ohio	Kinzie	660 00
22933	S. Ashland avenue	Sixty-third	Sixty-ninth	3,563 00
22935	Nelson	Blucher	Soult	132 00

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DRAINS—CONTINUED.

No. of War'nt	NAME OF STREET	FROM	TO	AMOUNT
22954	Prairie avenue	Fifty-fifth	Sixty-third	5,425 00
22980	Taylor	Campbell avenue	California avenue	660 00
22983	LeMoyne	Kedzie avenue	Homan avenue	675 00
22987	Colorado avenue	Fortieth avenue	Forty-eighth avenue	4,219 50
22988	Springfield avenue	Augusta	Chicago avenue	528 00
22994	Berwyn avenue	E. Ravenswood park	Clark	762 50
22995	Farragut	Ashland avenue	E. Ravenswood park	840 00
22996	May	Forty-eighth	Fifty-first	696 00
23002	Wood	Forty-third	Fifty-first	2,420 50
23004	Justine	Sixty-third	Sixty-seventh	1,248 00
23019	Bonaparte	Arch	Lock	279 00
23020	Kimball avenue	Armitage avenue	Diversey	2,242 00
23067	Indiana avenue	Brackett	Seventy-first	4,090 00
23069	S. Forty-second avenue	Twenty-seventh	Thirty-first	1,480 00
23077	Fulton	S. Forty-fourth avenue	S. Forty-sixth avenue	803 00
23078	N. Forty-first court	North avenue	Humboldt avenue	1,704 00
23080	Central Park avenue	W. Harrison	W. Twelfth	559 00
23089	Atlantic	Forty-third	Goshen	341 00
23091	Aberdeen	Forty-seventh	Fifty-first	276 00
23092	Morgan	Forty-seventh	Fifty-first	451 00
23093	Lincoln	Forty-third	Forty-seventh	1,878 00
23094	Wallace	Fifty-ninth	Sixty-third	456 00
23095	Lowe avenue	Fifty-ninth	Sixtieth	400 00
	Total			$ 114,562 60

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PLANK SIDEWALKS.

No. of War'nt	NAME OF STREET	FROM	TO	AMOUNT
22347	Carpenter	Eighty-ninth	Ninety-first	835 80
22400	Irving Park boulevard	Western avenue	Kedzie avenue	1,750 00
22405	Washtenaw avenue	Washington boulevard	Harrison	1,183 58
22415	Chicago avenue	Carpenter	May	277 00
22452	Jefferson avenue	Seventy-third	Seventy-fourth	219 80
22454	Hosmer avenue	Grand avenue	C. M. & St. P. R. R.	101 60
22461	Jackson avenue	Eighty-fifth	Eighty-sixth	29 60
22491	Houston avenue	131st	134th	318 57
22492	Seventy-ninth	Ford avenue	Commercial avenue	503 91
22493	Forty-ninth	Halsted	Wallace	43 20
22494	Cheltenham place	Coles avenue	Illinois Central R. R.	99 30
22495	St. James avenue	Montrose boulevard	Franklin	86 00
22496	Thirty-sixth	Bloom	Wood	73 50
22497	St. Charles avenue	Columbus avenue	Lawrence avenue	107 60
22498	136th	Howard avenue	Buffalo avenue	161 60
22499	Drexel avenue	Eighty-fourth	Eighty-sixth	109 60
22500	Humboldt avenue	Western avenue	Campbell avenue	137 20
22501	Eightieth	Marquette avenue	Manistee avenue	65 70
22502	Albany avenue	Elston avenue	Grace	269 85
22503	Ashland avenue	Thirty-seventh	Thirty-eighth court	169 00
22504	Carmen avenue	Clark	C. & N.-W. R. R.	253 40
22505	Fortieth place	Twelfth	Fourteenth	125 20
22506	S. Forty-first avenue	W. Twelfth	Fourteenth	291 90
22507	Ninetieth place	Cottage Grove avenue	Dauphin avenue	266 04
22508	Ninetieth	Cottage Grove avenue	Vincennes avenue	748 11
22509	Ninety-first	Cottage Grove avenue	Illinois Central R. R.	83 58
22510	Ninety-second	Cottage Grove avenue	Dauphin avenue	200 90
22511	Forty-fourth avenue	Fourteenth	Sixteenth	481 60
22526	Nutt avenue	Seventy-fifth	Seventy-sixth	79 60
22575	Reynolds avenue	Seventy-ninth	Eightieth	78 75
22602	Belmont avenue	Elston avenue	Kedzie avenue	771 00
22704	St. James	Madison	Washington	62 00
22705	St. James	Franklin	Washington	83 50
22706	Lawrence avenue	Belmont avenue	Centre avenue	76 00
22707	Thirty-eighth court	Halsted	Laurel	436 80
22708	Mentmore avenue	Sheridan avenue	Kedzie	267 88

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PLANK SIDEWALKS—CONTINUED.

No. of War'nt	NAME OF STREET	FROM	TO	AMOUNT
22709	Auburn avenue	Thirty-seventh court	Thirty-eighth	205 80
22710	Herndon	Diversey	Lincoln avenue	78 00
22711	Thirty-sixth	Hoyne avenue	Leavitt	92 00
22712	Forty-first place	Twelfth	Fourteenth	64 85
22713	Avers avenue	Sixteenth	Nineteenth	478 80
22714	Thirty-eighth	Halsted	Laurel	124 00
22715	Harbor avenue	Mackinaw avenue	Green Bay avenue	107 00
22716	Genessee avenue	Archer avenue	Fifty-first	884 86
22799	Medora	Harrison	Colorado avenue	145 20
22820	Adams avenue	Seventy-fifth	Seventy-sixth	75 00
22821	Seventy-sixth	Cottage Grove avenue	Jackson Terrace	62 00
22822	Aberdeen	101st	102d	66 00
22823	Centre avenue	103d	105th	174 80
22824	Centre avenue	Forty-seventh	Forty-ninth	401 10
22825	Ashland avenue	Fifty-ninth	Sixty-second	244 00
22826	Calumet avenue	133d	134th	147 60
22827	Marshfield avenue	Forty-seventh	Fifty-second	306 24
22828	Princeton avenue	Forty-seventh	Fifty-first	426 69
22829	Forty-second avenue	Twelfth	Fourteenth	440 96
22830	Ingleside avenue	Seventy-fourth	Seventy-fifth	255 09
22831	Sixty-ninth	State	Vincennes avenue	496 00
22832	Twenty-fourth	St. Louis avenue	Hamlin avenue	283 81
22833	Chauncey avenue	Seventy-eighth	Seventy-ninth	81 45
22834	Homan avenue	Twelfth	Fifteenth	341 22
22835	Eighty-ninth	Cottage Grove avenue	Vincennes avenue	891 86
22836	Eighty-eighth place	Cottage Grove avenue	Vincennes avenue	366 40
22837	Eighty-eighth	Cottage Grove avenue	Vincennes avenue	584 96
22838	Eighty-ninth place	Cottage Grove avenue	Vincennes avenue	477 76
22839	Eighty-seventh	St. Lawrence avenue	Dauphin avenue	192 40
22840	Van Buren	Forty-second avenue	Forty-third	160 40
22841	Charlton avenue	Thirty-fourth	Thirty-fifth	154 95
22842	Eighty-seventh place	Cottage Grove avenue	Vincennes avenue	225 28
22843	Jefferson avenue	Seventy-fifth	Seventy-seventh	388 24
22844	Charles	104th	Vincennes avenue	100 80
22845	102d	Union avenue	Parnell avenue	169 56
22846	Charles	Ninety-seventh	Ninety-ninth	168 00

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22847	138th	Indiana avenue	Leyden avenue	191 20
22848	Sacramento avenue	Twenty-fifth	Twenty-sixth	246 40
22849	Washtenaw avenue	Nineteenth	Twenty-first	158 40
22850	Emerald avenue	Thirty-fifth	Thirty-sixth	154 80
22851	Francisco	Twenty-fifth	Twenty-sixth	135 60
22852	Newberry avenue	Henry	W. C. R. R.	100 80
22853	Eighteenth	California avenue	Rockwell	289 92
22854	Fairfield avenue	Sixteenth	Twenty-second	710 15
22855	Huron	Forty-ninth avenue	Fifty-second avenue	545 28
22856	Reaper	Diversey	Clybourn avenue	322 74
22857	Fairfield avenue	Augusta	Iowa	189 76
22858	Twenty-fourth	Forty-first court	Forty-second avenue	101 64
22859	Western avenue	Berteau avenue	Montrose avenue	288 61
22860	134th	Houston avenue	Buffalo avenue	159 60
22876	Morgan	Kinzie	Fulton	162 18
22877	Lawrence avenue	Elston avenue	Crawford avenue	531 00
22878	Forty-fourth avenue	Armitage avenue	Humboldt avenue	243 20
22879	Dickens avenue	Forty-fourth avenue	Keeney avenue	229 80
22880	Southport avenue	Wrightwood avenue	Diversey	189 09
22881	Dunning	Southport avenue	Perry	218 79
22882	Lister avenue	Binzo place	Webster avenue	378 84
22889	Carroll avenue	Francisco	Kedzie avenue	692 01
22890	Castello avenue	Howard avenue	Columbia avenue	225 05
22891	Clark	Aldine	Halsted	167 30
22892	Tilden	Bowery	Aberdeen	152 40
22911	105th	Vincennes avenue	E. Meridian	211 05
22958	Polk	Halsted	Desplaines	90 90
23024	Wellington	Sheffield avenue	May	213 50
23030	Seventy-ninth	Cottage Grove avenue	Stony Island avenue	831 36
23034	California avenue	Chicago avenue	Grand avenue	157 85
23035	Ingleside avenue	Fifty-fifth	Fifty-seventh	228 55
23070	Kedzie avenue	Beach	Augusta	437 85
23071	103d	Stewart avenue	Halsted	708 62
	Total			$ 29,719 39

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CEMENT SIDEWALKS.

No. of War'nt	NAME OF STREET	FROM	TO	AMOUNT
22535	Seventy-third	I. C. R. R.	Stony Island avenue	2,095 60
22398	Baxter	Wellington avenue	Roscoe	2,376 25
22414	Seminary avenue	Eddy	Wellington	3,596 56
22426	Lexington	DeKalb	Leavitt	543 80
22512	Dunning	Halsted	Racine avenue	2,928 71
22513	Grand avenue	Bryan avenue	Alley 150 feet south of Chase avenue	252 00
22514	Paulina	Washington boulevard	Lake	595 40
22515	Troy	Fillmore	Twelfth	1,158 75
22516	Greenwood avenue	Fifty-first	Fifty-fifth	1,285 00
22517	Millard avenue	Twenty-third	Twenty-fourth	555 60
22518	Laflin	Monroe	Taylor	2,259 44
22519	Randolph	Ann	Ogden avenue	1,415 68
22520	Centre avenue	Madison	Adams	456 56
22521	Sixty-ninth	Clement avenue	Calumet avenue	780 00
22522	Keefe avenue	South Chicago avenue	Sixty-ninth	887 96
22523	Sheffield avenue	Foster avenue	Bryn Mawr avenue	3,355 00
22524	Flournoy	Douglas boulevard	Fortieth	757 20
22525	Windsor avenue	Sheridan road	Lake Michigan	744 00
22527	Forty-ninth	Cottage Grove avenue	Drexel boulevard	254 80
22528	Clara place	Powell avenue	N. Maplewood avenue	451 20
22529	Rhine	Powell avenue	N. Maplewood avenue	757 20
22530	Sixty-sixth	I. C. R. R	Stony Island avenue	735 64
22531	Utica	Fillmore	Twelfth	1,022 40
22532	Adams	Kedzie avenue	Homan avenue	708 01
22533	Pleasant Place	Powell avenue	Maplewood avenue	1,056 00
22534	Gross Terrace	Madison	Colorado avenue	198 23
22535	Nassau	Jackson	Van Buren	583 36
22536	Magnolia avenue	Ridge avenue	Francis	1,867 80
22537	Francis	Magnolia avenue	Wayne avenue	580 80
22538	Evanston avenue	Bryn Mawr avenue	Victor avenue	718 80
22539	Early avenue	Evanston avenue	Southport avenue	1,602 00
22540	Pine	Ohio	Chicago avenue	214 50
22541	Sixty-sixth place	Rossano	Stony Island avenue	896 00
22542	Victor avenue	Evanston avenue	Wayne avenue	1,126 00
22543	Wayne avenue	Francis	Ridge avenue	1,794 10
22544	May	Lake	Madison	994 00

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22545	Railroad avenue	Seventy-third	Seventy-fourth	445 20
22546	Francis	Wayne avenue	Southport avenue	651 00
22547	Clifton avenue	Noble	Belmont avenue	320 10
22548	Bradley place	Halsted	Rokeby	381 00
22549	Homan avenue	Lake	Kinzie	1,323 60
22550	Wabash avenue	Forty-third	Forty-fourth	360 45
22551	Maplewood avenue	Fullerton avenue	Humboldt boulevard	1,428 42
22552	Woodlawn avenue	Fifty-third	Fifty-fifth	499 20
22553	Calumet avenue	Forty-eighth	Forty-ninth	197 16
22572	Huron	N. Clark	St. Clair	2,006 30
22573	Sixty-second	Cottage Grove avenue	Lexington avenue	280 50
22574	Fifty-sixth	Indiana avenue	South Park avenue	1,109 46
22603	Fifty-third	East End avenue	Drexel avenue	5,874 80
22717	Rush	Chicago avenue	State	751 40
22718	Pine Grove avenue	Irving place	180 feet north of Byron	404 00
22769	Oakley avenue	Washington boulevard	Lake	416 00
22787	Polk	Rockwell	Ogden avenue	1,405 60
22788	Sixty-seventh	Cottage Grove avenue	South Park avenue	3,321 28
22789	Forty-fourth	Greenwood avenue	Lake avenue	235 46
22794	N. State	Chicago avenue	Rush	1,466 30
22816	Fifty-third	Cornell avenue	I. C. R. R.	210 00
22893	Sunnyside avenue	Sheridan road	Pemberton	2,975 58
22926	Thirteenth	State	Indiana avenue	419 55
22948	Thirty sixth	State	Indiana avenue	1,760 00
22951	Truro	Albany avenue	Kedzie avenue	1,115 00
22982	Seventy-second place	I. C. R. R.	Stony Island avenue	1,312 08
22989	Drexel avenue	Fifty-fifth	Fifty-ninth	1,595 40
23005	Greenwood avenue	Fifty-fifth	Sixty-third	2,501 73
23021	Wood	Madison	Congress	3,271 80
23022	Sixteenth	Kedzie avenue	Albany avenue	1,241 80
23036	Aldine avenue	N. Clark	Evanston avenue	848 75
23039	Bissell	Noble	Wellington	1,046 25
23061	Rhodes avenue	Sixty-third	Sixty-seventh	4,496 92
23088	Calumet avenue	Forty-third	Fifty-first	8,685 91
	Total			$94,756 84

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No. of War'nt	NAME OF STREET	FROM	TO	AMOUNT
22354	W. Twelfth	S. Fortieth avenue	S. Forty-sixth avenue	$ 2,795 00
22368	Flournoy	Central Park avenue	Lawndale avenue	407 00
22369	Farwell avenue	C. & N. W. Ry	Lake Michigan	832 00
22370	Winthorp avenue	Lawrence avenue	Ainslie	671 00
22371	Fullerton avenue	Kedzie avenue	N. Fortieth avenue	5,320 00
22372	Sawyer avenue	Twenty-fourth	Twenty-sixth	858 00
22373	Ninety-first	Exchange avenue	S. Chicago avenue	375 00
22374	Crescent place	Evanston avenue	N. Halsted	517 00
22375	Superior avenue	Ninety-second	Ninety third	224 00
22376	Loomis	Sixty-third	Sixty-seventh	1,560 00
22377	S. Chicago avenue	Eighty-seventh	Ninety-first	3,402 00
22378	Bishop	Sixty-third	Sixty-seventh	1,507 00
22396	Wentworth avenue	Fifty-fifth	Sixty-third	2,761 25
22403	S. Normal parkway	Butler	C., R. I. & P. R. R.	412 50
22418	Sheridan road	Foster avenue	Montrose boulevard	3,075 50
22434	Forty-seventh	Paulina	Western avenue	2,538 00
22444	Ellis avenue	Seventy-fourth	Seventy-fifth	450 00
22449	Lincoln	Forty-seventh	Fifty-first	1,418 40
22478	S. May	Sixty-seventh	Sixty-eighth	330 00
22479	Union avenue	118th	119th	241 50
22480	W. Forty-fifth place	Wallace	Wabash R. R.	517 00
22481	Cortez	Robey	Leavitt	561 00
22482	Wabansia avenue.	Kedzie avenue	Central Park avenue	572 00
22483	Laflin	Sixty-third	Sixty-seventh	1,276 00
22484	N. Ridgeway avenue	Chicago avenue	Division	1,573 00
22485	Turner avenue	Jackson boulevard	Van Buren	168 00
22486	Harvard	S. Fortieth avenue	S. Forty-second avenue	726 00
22487	W. Huron	Kedzie avenue	N. Fortieth avenue	3,190 20
22488	Sixty-seventh	Loomis	Ashland avenue	869 00
22489	N. Harding avenue	Augusta	W. Chicago avenue	768 00
22490	Argyle	Clark	Evanston avenue	1,060 00
22554	Cornelia	Robey	Leavitt	660 00
22555	Ridge avenue	Evanston avenue	N. Clark	2,090 00
22556	S. Hermitage avenue	Forty-fifth	Forty-seventh	429 00
22557	Marshfield avenue	Forty-fifth	Forty-seventh	478 00
22558	Eberly avenue	Belmont avenue	Noble avenue	384 00

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22559	Potwyn place	N. Hamilton avenue	N. Leavitt	175 50
22560	S. Fortieth avenue	W. Taylor	W. Twelfth	288 00
22561	S. Avers avenue	Twenty-second	Chicago, Burlington & Quincy railroad	341 00
22562	Sunnyside avenue	N. Robey	Lincoln avenue	378 00
22563	Goodspeed	Forty-third	Forty-seventh	1,023 00
22564	Oakley avenue	Fullerton avenue	Ems	512 00
22565	Kimball avenue	Belmont avenue	Wellington	715 00
22566	S. Forty-fifth avenue	W. Madison	W. Harrison	550 00
22567	Thirty-seventh place	Gage	S. Morgan	192 00
22591	Sixty-ninth	Halsted	Ashland avenue	3,478 00
22611	Thirty-fifth place	S. Halsted	S. Morgan	230 50
22625	Wrightwood avenue	Logan Square	Hamlin avenue	2,676 00
22630	Bernard	Noble avenue	Belmont avenue	384 00
22631	Gresham avenue	Milwaukee avenue	Noble avenue	825 00
22632	Spaulding avenue	Twenty-fourth	Twenty-sixth	704 00
22633	Marshfield avenue	Sixty-third	Sixty-fifth	918 00
22634	Monticello avenue	W. Chicago avenue	Grand avenue	1,536 00
22646	Cornelia	Western avenue	Rockwell	572 00
22647	Francisco	Fullerton avenue	Diversey avenue	1,320 00
22648	Humboldt	Milwaukee avenue	Diversey avenue	852 00
22649	Mozart	Fullerton avenue	Diversey avenue	1,368 00
22656	N. Hamlin avenue	Chicago avenue	W. North avenue	3,160 75
22699	Thirty-fourth place	Wood	Robey	612 00
22700	Elbridge avenue	Central Park avenue	Noble avenue	660 00
22701	S. S. Diversey avenue	Lawndale avenue	Central Park avenue	275 50
22702	Iowa	California avenue	Rockwell	517 00
22708	Grenshaw	S. Fortieth avenue	S. Forty-second avenue	876 00
22722	S. Forty-second avenue	Twenty-sixth	Twenty-seventh	308 00
22723	W. Twenty-sixth	S. Fortieth avenue	S. Forty-second avenue	1,092 00
22758	W. Eighteenth	Western avenue	West $514\frac{3}{10}$ feet	218 50
22759	Iowa	Hoyne avenue	Leavitt	360 00
22760	Leavitt	Chicago avenue	Division	1,668 00
22761	Crystal	Spaulding avenue	Homan avenue	203 00
22766	Sawyer avenue	Humboldt avenue	Armitage avenue	594 00
22767	Christiana avenue	Division	Grand avenue	456 00
22768	Christiana avenue	Wellington	Belmont avenue	912 00
22774	Kimball avenue	Diversey avenue	W. Wrightwood avenue	696 00
22784	Aberdeen	Sixty-third	Sixty-seventh	1,368 00
22785	S. Hermitage (Evarts) avenue	Forty-seventh	Fifty-first	242 00
22873	N. Troy	Ohio	Kinzie	660 00
22933	S. Ashland avenue	Sixty-third	Sixty-ninth	3,563 00
22935	Nelson	Blucher	Soult	182 00

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DRAINS—CONTINUED.

No. of War'nt	NAME OF STREET	FROM	TO	AMOUNT
22954	Prairie avenue	Fifty-fifth	Sixty-third	5,425 00
22980	Taylor	Campbell avenue	California avenue	660 00
22983	LeMoyne	Kedzie avenue	Homan avenue	675 00
22987	Colorado avenue	Fortieth avenue	Forty-eighth avenue	4,219 50
22988	Springfield avenue	Augusta	Chicago avenue	528 00
22994	Berwyn avenue	E. Ravenswood park	Clark	762 50
22995	Farragut	Ashland avenue	E. Ravenswood park	840 00
22996	May	Forty-eighth	Fifty-first	696 00
23002	Wood	Forty-third	Fifty-first	2,490 50
23004	Justine	Sixty-third	Sixty-seventh	1,248 00
23019	Bonaparte	Arch	Lock	279 00
23020	Kimball avenue	Armitage avenue	Diversey	2,242 00
23067	Indiana avenue	Brackett	Seventy-first	4,090 00
23069	S. Forty-second avenue	Twenty-seventh	Thirty-first	1,480 00
23077	Fulton	S. Forty-fourth avenue	S. Forty-sixth avenue	803 00
23078	N. Forty-first court	North avenue	Humboldt avenue	1,704 00
23080	Central Park avenue	W. Harrison	W. Twelfth	559 00
23089	Atlantic	Forty-third	Goshen	341 00
23091	Aberdeen	Forty-seventh	Fifty-first	276 00
23092	Morgan	Forty-seventh	Fifty-first	451 00
23093	Lincoln	Forty-third	Forty-seventh	1,378 00
23094	Wallace	Fifty-ninth	Sixty-third	456 00
23095	Lowe avenue	Fifty-ninth	Sixtieth	400 00
	Total			$ 114,563 60

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PLANK SIDEWALKS.

No. of War'nt	NAME OF STREET	FROM	TO	AMOUNT
22347	Carpenter	Eighty-ninth	Ninety-first	835 80
22400	Irving Park boulevard	Western avenue	Kedzie avenue	1,750 00
22405	Washtenaw avenue	Washington boulevard	Harrison	1,183 58
22415	Chicago avenue	Carpenter	May	277 00
22452	Jefferson avenue	Seventy-third	Seventy-fourth	219 80
22454	Hosmer avenue	Grand avenue	C. M. & St. P. R. R.	101 60
22461	Jackson avenue	Eighty-fifth	Eighty-sixth	29 60
22491	Houston avenue	131st	134th	318 57
22492	Seventy-ninth	Ford avenue	Commercial avenue	503 91
22493	Forty-ninth	Halsted	Wallace	48 20
22494	Cheltenham place	Coles avenue	Illinois Central R. R.	99 20
22495	St. James avenue	Montrose boulevard	Franklin	86 00
22496	Thirty-sixth	Bloom	Wood	73 50
22497	St. Charles avenue	Columbus avenue	Lawrence avenue	107 60
22498	136th	Howard avenue	Buffalo avenue	161 60
22499	Drexel avenue	Eighty-fourth	Eighty-sixth	109 60
22500	Humboldt avenue	Western avenue	Campbell avenue	137 20
22501	Eightieth	Marquette avenue	Manistee avenue	65 70
22502	Albany avenue	Elston avenue	Grace	269 85
22503	Ashland avenue	Thirty-seventh	Thirty-eighth court	169 00
22504	Carmen avenue	Clark	C. & N.-W. R. R.	253 40
22505	Fortieth place	Twelfth	Fourteenth	125 20
22506	S. Forty-first avenue	W. Twelfth	Fourteenth	291 90
22507	Ninetieth place	Cottage Grove avenue	Dauphin avenue	266 04
22508	Ninetieth	Cottage Grove avenue	Vincennes avenue	748 11
22509	Ninety-first	Cottage Grove avenue	Illinois Central R. R.	83 58
22510	Ninety-second	Cottage Grove avenue	Dauphin avenue	200 90
22511	Forty-fourth avenue	Fourteenth	Sixteenth	481 60
22526	Nutt avenue	Seventy-fifth	Seventy-sixth	79 60
22575	Reynolds avenue	Seventy-ninth	Eightieth	78 75
22602	Belmont avenue	Elston avenue	Kedzie avenue	771 00
22704	St. James	Madison	Washington	62 00
22705	St. James	Franklin	Washington	83 50
22706	Lawrence avenue	Belmont avenue	Centre avenue	76 04
22707	Thirty-eighth court	Halsted	Laurel	436 80
22708	Mentmore avenue	Sheridan avenue	Kedzie	267 88

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PLANK SIDEWALKS—CONTINUED.

No. of War'nt	NAME OF STREET	FROM	TO	AMOUNT
22709	Auburn avenue	Thirty-seventh court	Thirty-eighth	205 80
22710	Herndon	Diversey	Lincoln avenue	73 00
22711	Thirty-sixth	Hoyne avenue	Leavitt	92 00
22712	Forty-first place	Twelfth	Fourteenth	64 35
22713	Avers avenue	Sixteenth	Nineteenth	478 80
22714	Thirty-eighth	Halsted	Laurel	124 00
22715	Harbor avenue	Mackinaw avenue	Green Bay avenue	107 00
22716	Genessee avenue	Archer avenue	Fifty-first	884 86
22799	Medora	Harrison	Colorado avenue	145 20
22820	Adams avenue	Seventy-fifth	Seventy-sixth	75 00
22821	Seventy-sixth	Cottage Grove avenue	Jackson Terrace	62 00
22822	Aberdeen	101st	102d	66 00
22823	Centre avenue	103d	105th	174 80
22824	Centre avenue	Forty-seventh	Forty-ninth	401 10
22825	Ashland avenue	Fifty-ninth	Sixty-second	244 00
22826	Calumet avenue	133d	134th	147 60
22827	Marshfield avenue	Forty-seventh	Fifty-second	306 24
22828	Princeton avenue	Forty-seventh	Fifty-first	426 69
22829	Forty-second avenue	Twelfth	Fourteenth	440 96
22830	Ingleside avenue	Seventy-fourth	Seventy-fifth	255 09
22831	Sixty-ninth	State	Vincennes avenue	496 00
22832	Twenty-fourth	St. Louis avenue	Hamlin avenue	283 81
22833	Chauncey avenue	Seventy-eighth	Seventy-ninth	81 45
22834	Homan avenue	Twelfth	Fifteenth	841 23
22835	Eighty-ninth	Cottage Grove avenue	Vincennes avenue	891 86
22836	Eighty-eighth place	Cottage Grove avenue	Vincennes avenue	366 40
22837	Eighty-eighth	Cottage Grove avenue	Vincennes avenue	584 96
22838	Eighty-ninth place	Cottage Grove avenue	Vincennes avenue	477 76
22839	Eighty-seventh	St. Lawrence avenue	Dauphin avenue	192 40
22840	Van Buren	Forty-second avenue	Forty-third	160 40
22841	Charlton avenue	Thirty-fourth	Thirty-fifth	154 95
22842	Eighty-seventh place	Cottage Grove avenue	Vincennes avenue	225 28
22843	Jefferson avenue	Seventy-fifth	Seventy-seventh	338 24
22844	Charles	104th	Vincennes avenue	100 80
22845	102d	Union avenue	Parnell avenue	169 56
22846	Charles	Ninety-seventh	Ninety-ninth	168 00

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22847	138th	Indiana avenue	Leyden avenue	191 30
22848	Sacramento avenue	Twenty-fifth	Twenty-sixth	246 40
22849	Washtenaw avenue	Nineteenth	Twenty-first	158 40
22850	Emerald avenue	Thirty-fifth	Thirty-sixth	154 80
22851	Francisco	Twenty-fifth	Twenty-sixth	135 60
22852	Newberry avenue	Henry	W. C. R. R.	100 80
22853	Eighteenth	California avenue	Rockwell	289 92
22854	Fairfield avenue	Sixteenth	Twenty-second	710 15
22855	Huron	Forty-ninth avenue	Fifty-second avenue	545 28
22856	Reaper	Diversey	Clybourn avenue	322 74
22857	Fairfield avenue	Augusta	Iowa	189 76
22858	Twenty-fourth	Forty-first court	Forty-second avenue	101 64
22859	Western avenue	Berteau avenue	Montrose avenue	288 61
22860	134th	Houston avenue	Buffalo avenue	159 60
22876	Morgan	Kinzie	Fulton	162 18
22877	Lawrence avenue	Elston avenue	Crawford avenue	531 00
22878	Forty-fourth avenue	Armitage avenue	Humboldt avenue	243 20
22879	Dickens avenue	Forty-fourth avenue	Keeney avenue	229 80
22880	Southport avenue	Wrightwood avenue	Diversey	189 09
22881	Dunning	Southport avenue	Perry	218 79
22882	Lister avenue	Binzo place	Webster avenue	378 84
22889	Carroll avenue	Francisco	Kedzie avenue	692 01
22890	Castello avenue	Howard avenue	Columbia avenue	225 05
22891	Clark	Aldine	Halsted	167 30
22892	Tilden	Bowery	Aberdeen	152 40
22911	105th	Vincennes avenue	E. Meridian	211 05
22958	Polk	Halsted	Desplaines	90 90
23024	Wellington	Sheffield avenue	May	213 50
23030	Seventy-ninth	Cottage Grove avenue	Stony Island avenue	881 36
23034	California avenue	Chicago avenue	Grand avenue	157 85
23035	Ingleside avenue	Fifty-fifth	Fifty-seventh	228 55
23070	Kedzie avenue	Beach	Augusta	437 85
23071	103d	Stewart avenue	Halsted	708 62
	Total			$ 29,719 39

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CEMENT SIDEWALKS.

No. of War'nt	NAME OF STREET	FROM	TO	AMOUNT
22355	Seventy-third	I. C. R. R.	Stony Island avenue	2,095 60
22398	Baxter	Wellington avenue	Roscoe	2,376 25
22414	Seminary avenue	Eddy	Wellington	3,596 56
22426	Lexington	DeKalb	Leavitt	543 80
22512	Dunning	Halsted	Racine avenue	2,923 71
22513	Grand avenue	Bryan avenue	Alley 150 feet south of Chase avenue	252 00
22514	Paulina	Washington boulevard	Lake	595 40
22515	Troy	Fillmore	Twelfth	1,158 75
22516	Greenwood avenue	Fifty-first	Fifty-fifth	1,285 00
22517	Millard avenue	Twenty-third	Twenty-fourth	555 60
22518	Laflin	Monroe	Taylor	2,259 44
22519	Randolph	Ann	Ogden avenue	1,415 68
22520	Centre avenue	Madison	Adams	456 56
22521	Sixty-ninth	Clement avenue	Calumet avenue	730 00
22522	Keefe avenue	South Chicago avenue	Sixty-ninth	887 96
22523	Sheffield avenue	Foster avenue	Bryn Mawr avenue	3,355 00
22524	Flournoy	Douglas boulevard	Fortieth	757 20
22525	Windsor avenue	Sheridan road	Lake Michigan	744 00
22527	Forty-ninth	Cottage Grove avenue	Drexel boulevard	254 80
22528	Clara place	Powell avenue	N. Maplewood avenue	451 20
22529	Rhine	Powell avenue	N. Maplewood avenue	757 20
22530	Sixty-sixth	I. C. R. R	Stony Island avenue	735 64
22531	Utica	Fillmore	Twelfth	1,022 40
22532	Adams	Kedzie avenue	Homan avenue	708 01
22533	Pleasant Place	Powell avenue	Maplewood avenue	1,056 00
22534	Gross Terrace	Madison	Colorado avenue	198 22
22535	Nassau	Jackson	Van Buren	533 36
22536	Magnolia avenue	Ridge avenue	Francis	1,367 30
22537	Francis	Magnolia avenue	Wayne avenue	580 80
22538	Evanston avenue	Bryn Mawr avenue	Victor avenue	718 80
22539	Early avenue	Evanston avenue	Southport avenue	1,602 00
22540	Pine	Ohio	Chicago avenue	214 50
22541	Sixty-sixth place	Rossano	Stony Island avenue	896 00
22542	Victor avenue	Evanston avenue	Wayne avenue	1,126 00
22543	Wayne avenue	Francis	Ridge avenue	1,794 10
22544	May	Lake	Madison	994 00

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22545	Railroad avenue	Seventy-third	Seventy-fourth	445 20
22546	Francis	Wayne avenue	Southport avenue	651 00
22547	Clifton avenue	Noble	Belmont avenue	320 10
22548	Bradley place	Halsted	Rokeby	881 00
22549	Homan avenue	Lake	Kinzie	1,323 60
22550	Wabash avenue	Forty-third	Forty-fourth	360 45
22551	Maplewood avenue	Fullerton avenue	Humboldt boulevard	1,428 42
22552	Woodlawn avenue	Fifty-third	Fifty-fifth	499 20
22553	Calumet avenue	Forty-eighth	Forty-ninth	197 16
22572	Huron	N. Clark	St. Clair	2,006 30
22573	Sixty-second	Cottage Grove avenue	Lexington avenue	280 50
22574	Fifty-sixth	Indiana avenue	South Park avenue	1,109 46
22603	Fifty-third	East End avenue	Drexel avenue	5,874 80
22717	Rush	Chicago avenue	State	751 40
22718	Pine Grove avenue	Irving place	180 feet north of Byron	404 00
22769	Oakley avenue	Washington boulevard	Lake	416 00
22787	Polk	Rockwell	Ogden avenue	1,405 60
22788	Sixty-seventh	Cottage Grove avenue	South Park avenue	3,321 28
22789	Forty-fourth	Greenwood avenue	Lake avenue	235 46
22794	N. State	Chicago avenue	Rush	1,466 30
22816	Fifty-third	Cornell avenue	I. C. R. R.	210 00
22893	Sunnyside avenue	Sheridan road	Pemberton	2,975 58
22926	Thirteenth	State	Indiana avenue	419 55
22948	Thirty sixth	State	Indiana avenue	1,760 00
22951	Truro	Albany avenue	Kedzie avenue	1,115 00
22982	Seventy-second place	I. C. R. R.	Stony Island avenue	1,312 08
22989	Drexel avenue	Fifty-fifth	Fifty-ninth	1,595 40
23005	Greenwood avenue	Fifty-fifth	Sixty-third	2,501 73
23021	Wood	Madison	Congress	3,271 80
23022	Sixteenth	Kedzie avenue	Albany avenue	1,241 80
23036	Aldine avenue	N. Clark	Evanston avenue	848 75
23039	Bissell	Noble	Wellington	1,046 25
23061	Rhodes avenue	Sixty-third	Sixty-seventh	4,496 92
23088	Calumet avenue	Forty-third	Fifty-first	8,635 91
	Total			$94,756 84

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STONE SIDEWALKS.

No. of War'nt	NAME OF STREET.	FROM	TO	AMOUNT
22875	Madison	Green	Peoria	$ 4,896 00

ELECTRIC LAMP POSTS.

No. of War'nt	No. of Posts	NAME OF STREET	FROM	TO	AMOUNT
22890	25	Ogden avenue	Madison	W. Twelfth	$ 13,668 21
22959	8	Wells	Division	North avenue	3,664 30
		Total			17,332 51

BOULEVARD LAMP POSTS.

No. of War'nt	No. of Posts	NAME OF STREET	FROM	TO	AMOUNT
22391	6	Langley avenue	Sixtieth	Sixty-first	210 00
22455	30	Sherwin avenue	Forest avenue	Lake Michigan	850 00
22582	30	Foster avenue	N. Ashland avenue	Robey	997 50
22585	16	E. Ravenswood Park	Foster avenue	Catalpa avenue	548 00
22612	6	Sixty-ninth	S. Park avenue	Anthony avenue	210 00
22734	31	Carroll avenue	N. Fortieth avenue	N. Forty-fourth avenue	883 50
22813	92	Ridge Road	Devon avenue	City Limits	2,450 00
22817	21	S. Peoria	Sixty-sixth	Sixty-ninth	630 00
22919	2	Hazel	Kenesaw Terrace	Buena avenue	65 00
22920	27	S. May	Garfield boulevard	W. Fifty-ninth	789 00
23031	79	Morgan	Fifty-first	Sixty-third	2,429 67
		Total			$ 10,062 67

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GAS LAMP POSTS.

No. of War'nt	No. of Posts	NAME OF STREET	FROM	TO	AMOUNT
22353	23	S. Halsted	Seventy-fifth	Seventy-ninth	$ 583 00
22357	6	Seventy-fifth	Langley avenue	Cottage Grove avenue	159 00
22358	5	Adams avenue	Seventieth	Seventy-first	132 50
22359	35	W. Sixty-third	Marshfield avenue	S. Centre avenue	857 50
22360	3	Forest	Touhy avenue	Chase avenue	84 50
22361	4	N. Robey	Greenleaf avenue	Estes avenue	108 50
22362	4	N. Ashland avenue	Greenleaf avenue	Estes avenue	108 50
22363	5	Armour avenue	Twenty-third	Twenty-second	132 50
22364	5	Forty-third avenue	Park avenue	Randolph	132 50
22365	41	S. Ashland avenue	W. Sixty-third	W. Sixty-ninth	981 50
22416	12	Coles avenue	Seventy-first	Seventy-third	230 33
22456	16	Forest	Morse avenue	Touhy avenue	424 00
22457	21	Central	Columbia avenue	Greenleaf avenue	551 50
22458	3	Clayton court	Columbia avenue	Pratt avenue	84 50
22459	17	Estes avenue	N. Robey	N. Clark	450 50
22460	15	S. Ashland avenue	Thirty-fifth	Thirty-seventh	397 50
22581	20	Park avenue	N. Forty-second avenue	N. Forty-fourth avenue	630 00
22583	23	Van Buren	S. Fortieth avenue	S. Forty-third avenue	792 50
22584	4	Spaulding avenue	Monroe	Adams	101 50
22613	4	W. Nineteenth place	S. May	Fisk	108 50
22614	6	Flournoy	S. California avenue	S. Washtenaw avenue	159 00
22615	5	N. Humboldt	Cornelia	Augusta	137 50
22616	5	W. Twentieth place	Sangamon	Peoria	132 50
22617	15	N. Forty-fourth avenue	Armitage avenue	Humboldt avenue	397 50
22618	5	S. Forty-fourth avenue	Park avenue	W. Randolph	132 50
22619	5	S. Campbell avenue	Archer avenue	W. Thirth-ninth	132 50
22620	9	Sixty-second	Stony Island avenue	Illinois Central R. R	238 50
22621	16	E. Ravenswood park	Pratt avenue	Estes avenue	424 00
22622	9	N. Homan avenue	Carroll avenue	Central Park boulevard	238 50
22623	34 and 32 con.	Madison avenue	Lake avenue	Fifty-ninth	1,151 00
22624	10	Seventy-second	Stony Island avenue	B. & O. R. R	265 00
22626	2	Thirty-eighth place	Vernon avenue	Rhodes avenue	58 00
22627	4	Hobbie	Crosby	Hawthorne	108 50
22628	3	Central	Estes avenue	Greenleaf avenue	84 50
22629	4	S. California avenue	W. Thirty-eighth	W. Thirty-eighth place	108 50
22660	11	Fifth avenue	Root	Thirty-ninth	291 50

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GAS LAMP POSTS—CONTINUED.

No. of War'nt	No. of Posts	NAME OF STREET	FROM	TO	AMOUNT
22661	14	Fifth avenue	W. Forty-third	W. Forty-fifth place	$ 309 11
22662	26	Aberdeen	Garfield boulevard	W. Fifty-ninth	659 00
22664	39	South Chicago avenue	Seventy-first	Seventy-fifth	955 50
22665	4	S. Washtenaw avenue	W. Thirty-eighth	W. Thirty-eighth place	108 50
22666	5	Farwell avenue	E. Ravenswood Park	N. Clark	132 50
22667	7	Champlain avenue	Seventy-first	Seventy-second	185 50
22668	9	Morse avenue	Central	Ridge road	238 50
22669	11	Lunt avenue	Ellwood	Morton	291 50
22719	21	Vincennes road	Seventy-sixth	Seventy-ninth	556 50
22729	32	S. Forty-second avenue	W. Harrison	W. Twelfth	788 00
22730	26	S. Centre avenue	Forty-seventh	Fifty-first	644 05
22731	77	S. Centre avenue	Fifty-first	Sixty-third	1,805 50
22732	1 and 9 con.	Thomas	N. Robey	N. Wood	161 50
22733	27	Ada	W. Fifty-ninth	W. Sixty-third	681 75
22786	6	Oakley avenue	Sunnyside avenue	Wilson avenue	159 00
22801	35	Vincennes avenue	Sixty-third	South Chicago avenue	927 50
22802	14	St. Lawrence avenue	Seventy-first	Seventy-third	371 00
22803	40	Thirty-eighth	Sacromento avenue	Campbell avenue	980 00
22804	5	Seminary avenue	Waveland avenue	Grace	132 50
22805	5	N. Robey	Belle Plaine avenue	Berteau avenue	133 00
22806	6	N. Leavitt	School	Roscoe boulevard	159 00
22807	6	Nelson	Ashland avenue	Perry	159 00
22808	6	Eddy	N. Lincoln	N. Robey	159 00
22809	8	Winthrop avenue	Ainslie	Lawrence avenue	212 00
22810	6	Oakdale avenue	Southport avenue	Perry	159 00
22811	2	Byron	N. Hermitage avenue	E. Ravenswood Park	58 00
22812	19	Berteau avenue	Lincoln avenue	W. Ravenswood Park	503 50
22886	7	Cornelia avenue	Sheffield avenue	Halsted	185 50
22894	13	Newport avenue	N. Robey	W. Ravenswood Park	344 50
22895	5	Lawrence avenue	Evanston avenue	Sheridan road	132 50
22896	9	Eddy	Clark	Racine avenue	238 50
22897	7	Byron	N. Ashland avenue	Southport avenue	185 50
22898	6	N. Leavitt	Cullom avenue	Lincoln avenue	159 00
22899	10	Sunnyside avenue	Western avenue	Lincoln avenue	265 00
22900	13	Cornelia avenue	Robey	W. Ravenswood Park	390 00
22901	21	Fifty-fourth	Union avenue	Morgan	556 50

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22902	6	Ross avenue	Sixty-fifth	Sixty-sixth	159 00
22903	7	Dunning	N. Marshfield avenue	Terra Cotta place	185 50
22904	9	W. Forty-fourth place	Wallace	Stuart avenue	238 50
22905	6	N. Claremont avenue	Sunnyside avenue	Wilson avenue	159 00
22906	2	Edgewater avenue	N. Ashland avenue	N. Clark	58 00
22917	6	Grace	N. Robey	Lincoln avenue	159 00
22918	13	N. Paulina	Granville avenue	Ridge road	344 50
22950	11	S. Hamilton avenue	Thirty-seventh	Archer avenue	333 85
22960	17	Fletcher	Racine avenue	Perry	450 50
22971	4	S. Forty-third court	Park avenue	Randolph	108 50
22972	11	Lincoln	Armitage avenue	Asylum place	291 50
22973	4	Harvard	S. Forty-first court	Forty-second avenue	108 50
22974	11 and 52 con.	Hamlin avenue	North avenue	Chicago avenue	868 50
22976	6	Forty-first	Wallace	Butler	159 00
22977	7	Forty-second place	Stewart avenue	Princeton avenue	185 50
22978	4	Forty-sixth	Wentworth avenue	C. R. I. & P. R. R.	108 50
23023	4	Sixty-first	Rhodes avenue	St. Lawrence avenue	130 00
		Total			$ 29,240 09

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SUMMARY.

STREETS.

Wooden Block Pavement:			
North Division	$ 53,818 35		
South Division	185,342 25		
West Division	312,099 79		
		$	551,260 39
Macadam Pavement:			
North Division	$ 12,325 36		
South Division	35,347 96		
West Division	29,543 27		
		$	77,216 59
Vitrified Brick Pavement:			
North Division	$ 88,198 16		
South Division	31,499 97		
		$	119,698 13
Asphalt Pavement:			
North Division	$ 78,064 32		
South Division	226,765 93		
West Division	130,642 50		
		$	435,472 75
Granite Block Pavement:			
West Division	$ 28,773 24		

ALLEYS.

Wooden Block Pavement:			
North Division	$ 4,950 11		
South Division	5,774 56		
West Division	4,901 70		
		$	15,626 37
Asphalt Pavement:			
South Division	$ 2,322 91		
		$	2,322 91

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MISCELLANEOUS.

Curbing and Filling Streets:		
South Division	$ 2,056 55	
		$ 2,056 55
Opening and Widening Streets and Alleys:		
North Division	$ 6,391 30	
South Division	72,436 74	
West Division	16,074 07	
		$ 94,902 11
Water Supply Pipes:		
North Division	$ 12,766 48	
South Division	28,460 96	
West Division	68,413 46	
		$ 109,640 90
Water Service Pipes:		
North Division	$ 2,828 50	
South Division	39,304 00	
West Division	66,428 25	
		$ 108,560 75
Sewers:		
North Division	$ 22,364 34	
South Division	98,619 17	
West Division	135,867 15	
		$ 256,850 66
Drains:		
North Division	$ 10,553 50	
South Division	47,857 65	
West Division	56,151 45	
		$ 114,562 60
Plank Sidewalks:		
North Division	$ 1,726 43	
South Division	14,277 78	
West Division	13,715 18	
		$ 29,719 39
Cement Sidewalks:		
North Division	$ 31,501 70	
South Division	39,590 10	
West Division	23,665 04	
		$ 94,756 84
Stone Sidewalks:		
West Division	$ 4,896 00	
		$ 4,896 00

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Electric Lamp Posts:			
West Division	$ 13,668 21		
North Division	3,664 30		
		$	17,332 51
Boulevard Lamp Posts:			
North Division	$ 4,910 50		
South Division	4,268 67		
West Division	883 50		
		$	10,062 67
Gas Lamp Posts:			
North Division	$ 8,182 50		
South Division	15,773 59		
West Division	5,284 00		
		$	29,240 09
Total			$2,102,951 45

RECAPITULATION.

Assessments Prepared.		
47	Streets, wooden block pavement	$ 551,260 39
15	Streets, macadam pavement	77,216 59
5	Streets, vitrified brick pavement	119,698 13
10	Streets, asphalt pavement	435,472 75
2	Streets, granite block pavement	28,773 24
1	Alley, asphalt pavement	2,322 91
10	Alleys, wooden block pavement	15,626 37
1	Curbing and filling	2,056 55
12	Opening and widening	94,902 11
70	Water supply pipes	109,640 90
75	Water service pipes	108,560 75
114	Sewers	256,850 66
101	Drains	114,562 60
105	Sidewalks, plank	29,719 39
70	Sidewalks, cement	94,756 84
1	Sidewalk, stone	4,896 00
2	Lamp posts, electric	17,332 51
11	Lamp posts, boulevard	10,062 67
89	Lamp posts, gas	29,240 09
741	Total	$2,102,951 45

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LIST OF ASSESSMENTS FOR EACH YEAR SINCE 1861.

For the year ending April 1, 1862	$ 42,635 49
For the year ending April 1, 1863	46,493 67
For the year ending April 1, 1864	389,169 31
For the year ending April 1, 1865	103,576 35
For the year ending April 1, 1866	802,574 56
For the year ending April 1, 1867	317,206 18
For the year ending April 1, 1868	1,354,436 48
For the year ending April 1, 1869	2,395,683 03
For the year ending April 1, 1870	2,836,852 48
For the year ending April 1, 1871	2,359,885 89
For the year ending April 1, 1872	62,322 25
For the year ending April 1, 1873	.....
For the year ending April 1, 1874	749,460 27
For the year ending April 1, 1875	723,254 42
For the nine months ending December 31, 1875	60,585 72
For the year ending December 31, 1876	1,516,081 07
For the year ending December 31, 1877	124,498 48
For the year ending December 31, 1878	284,900 45
For the year ending December 31, 1879	588,963 44
For the year ending December 31, 1880	980,895 50
For the year ending December 31, 1881	1,227,169 71
For the year ending December 31, 1882	1,395,872 98
For the year ending December 31, 1883	2,282,757 04
For the year ending December 31, 1884	2,857,905 28
For the year ending December 31, 1885	2,889,544 80
For the year ending December 31, 1886	3,307,567 99
For the year ending December 31, 1887	3,160,474 67
For the year ending December 31, 1888	3,655,956 78
For the year ending December 31, 1889	4,220,869 98
For the year ending December 31, 1890	6,987,155 48
For the year ending December 31, 1891	8,790,443 29
For the year ending December 31, 1892	14,505,701 79
For the year ending December 31, 1893	6,001,445 65
For the year ending December 31, 1894	2,903,814 16
For the year ending December 31, 1895	4,387,214 44
For the year ending December 31, 1896	4,037,319 96
For the year ending December 31, 1897	2,102,951 45
Total for thirty-seven years	$90,402,990 44

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REPORT OF THE

Bureau of Maps and Plats

FOR 1897.

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BUREAU OF MAPS AND PLATS.

HON. LAWRENCE E. McGANN,

Commissioner of Public Works:

DEAR SIR:—I have the honor to submit to you the annual report of the Map Department for the year 1897. The work performed by the department during the year was as follows:

Plats prepared for the SPECIAL ASSESSMENT:		
Street improvement and street-and-alley-opening assessment	371	plats
Street and alley opening ordinances and vacations	89	"
Lamp post ordinances	433	"
" orders	152	"
" assessments	250	"
Electric lamp post assessments and ordinances	4	"
Assessment Law Department: Corporation Counsel's	460	"
Total	1,759	plats
THE BUREAU OF STREETS AND ALLEYS.		
Estimate plats for Street Engineer:		
Opening of streets and alleys	507	plats
Surveys	75	"
Plats of Sidewalk Department	1,403	"
Total	1,985	plats
DEPARTMENT OF TRACK ELEVATION	19	plats
WATER PIPE EXTENSION ASSESSMENT	141	"
CITY GAS INSPECTOR	200	"
CITY COUNCIL AND ALDERMEN	128	"
BUREAU OF STREET AND ALLEY CLEANING	30	"
SEWER DEPARTMENT	25	"
HEALTH DEPARTMENT	18	"
CITY CLERK	12	"
CITY COLLECTOR	8	"
MISCELLANEOUS PURPOSES	60	"

In all, 4,421 maps and plats for the departments of the City Administration have been made in the Map Department during the year, of the aggregate value of $14,650.00.

One map accompanying the yearly report of the Civil Service Commission, showing the labor districts of Chicago, and established by the rules of said commission, has been drawn and compiled in the Map Department.

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One map 30 feet long by 19 feet wide was prepared and compiled for the use of the Council Committee appointed for redistriction of the wards of the City.

About 6,000 house-number notices were served on owners, agents, etc., of houses and the corresponding house-number certificates were furnished.

ATLAS POSTING.

185 entries of .....147 subdivisions.
31 entries of ..... 21 vacations.
81 entries of ..... 43 street openings.
21 entries of ..... 11 alley openings.
Total, 318 entries of 222 documents.

One thousand four hundred miles of street frontage were checked for the Street Cleaning Department.
One hundred and six frontage petitions for street and alley improvements were checked.
Fifty-six frontage petitions for street railways were checked.

MILEAGE OF STREETS AND ALLEYS

added to the City in 1897 by subdivisions and condemnations.

	Streets.		Alleys.	
	Miles.	Feet.	Miles.	Feet.
Calumet	.....	280	.....	590
Hyde Park	.....	3,386	.....	.....
Lake	.....	3,905	.....	2,860
Lake View	.....	615	.....	2,615
Rogers Park and West Ridge	.....	1,500	.....	1,980
Norwood Park	.....	.....	.....	300
Jefferson	2	650	6	1,390
North Town	.....	.....	.....	225
South Town	.....	.....	.....	.....
West Town	2	2,290	.....	1,245
Total increase	6	2,066	8	645

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The area of Chicago is 187.138 square miles; the prohibition districts cover 22.75 square miles and the local option districts seven square miles.

Unsubdivided land inside Chicago city limits about eighty-one square miles.

Area of Lake Calumet about	2,720	acres
Area of Wolf Lake about	480	"
Area of Hyde Lake about	320	"
Total water surface	3,520	acres

TEN STREETS HAVE CHANGED NAMES, VIZ:

Asylum place, changed to *W. Webster avenue*, from river to Leavitt street.

Dudley street, changed to *N. Winchester avenue*, from North avenue to Webster avenue.

Fayette court, changed to *Throop street*, from Vernon Park place to Harrison street.

Sixty-second place, changed to *Englewood avenue*, from Wentworth avenue to Halsted street.

Seventy-second place, changed to *Kenwood Terrace*, from Euclid avenue to Ellington street.

Kinney avenue, changed to *Cornell avenue*, from Sixty-seventh street to Eighty-third street.

Avenue K, changed to *Ewing avenue*, from Ninety-sixth street to Hyde Lake.

Erickson avenue, changed to *Hobart avenue*, from Avondale avenue to Avondale avenue.

Morris street, changed to *Phillips avenue*, in Rogers Park.

Nelson avenue, changed to *King place*, from Blucher street to Soult street.

Respectfully submitted,

WM. REISENEGGER,
Superintendent of Map Department.

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Book-keeper's Statement.

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BOOK-KEEPER'S STATEMENT.

HON. LAWRENCE E. McGANN,
Commissioner of Public Works.

DEAR SIR:—I herewith respectfully submit statement in detail of the Receipts and Expenditures of your Department for the year 1897:

WATER FUND.

Balance to credit, Jan. 1st, 1897.....		$325,382 96
RECEIPTS.		
Amount collected during the year for current water rents assessed.....	$2,008,235 25	
Amount collected during the year for current water rents, meter measurements.....	852,407 45	
Acc't Water Permits.		
Amount received for taps and permits, also plumbers' licenses and special assessment work.....	65,207 00	
Acc't Meters and Private Work.		
Amount received for labor and material used in laying and repairing water supply pipes for elevators and general supply of water, also for changing location of hydrants and stop cocks and repairing meters.....	56,817 14	
Carried forward	$2,982,666 84	$ 325,382 96

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Brought forward.....	$2,982,666 84	$ 325,382 96
Acc't North Pump. Works.		
Amount received for scrap iron, empty barrels, etc...	92 78	
Acc't South Pump. Works.		
Amount received for scrap iron, etc.....	39 20	
Acc't Central Pump. Works.		
Amount received for empty barrels, etc	42 85	
Acc't West Pump. Works.		
Amount received for scrap iron, empty barrels, etc...	228 93	
Acc't Sixty-eighth St. Pump. Works.		
Amount received for empty barrels, etc.....	423 53	
Acc't Lake View Pump. Works.		
Amount received for scrap iron, etc.....	134 53	
Acc't Hydrant Wrenches.		
Amount received as deposit for loan of hydrant wrenches.....	715 00	
Acc't Water Works Shop.		
Amount received for brass borings, lead dross, scrap iron, etc.....	765 96	
Carried forward.....	$2,985,109 62	$ 325,382 96

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Brought forward	$2,985,109 62	$ 325,382 96
Acc't Water Pipe Extension.		
Amount received for lowering and repairing water pipe.....	30,619 23	
Rent of Rookery Lot	35,000 04	
From private parties to lay water mains	15,259 23	
		3,065,988 12
Grand total.....		$3,391,371 08

EXPENDITURES.

Acc't Water Pipe Extension.	
Labor.....	$ 189,975 45
Repairing and repaving....	38,498 79
Basins and hydrants.....	25,315 30
Public benefit—contractors.	20,412 65
Transfers	16,166 88
Building basins and hydrants	16,109 73
Sewer estimate—water pipe.	14,257 82
Refilling and cleaning hydrants and basins.....	14,126 81
Teaming	13,763 49
Amount advanced—laying water pipe.....	10,828 98
Valves and basins.....	9,924 39
Sleeves, valves and basins..	9,681 08
Lead	7,923 16
Hydrant rings and cocks....	5,526 35
Labor..... ...	5,399 50
Brick	5,217 13
Plumbing.....	4,197 59
Labor and material.....	4,093 92
Water pipe	3,731 52
Cement	3,572 50
Lumber.....	3,130 49
Cartage.....	2,559 85
Interest—judgment.....	1,907 70
Laying water pipe on Grand avenue.....	1,777 85
Carried forward	$ 428,098 93

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Brought forward	$ 428,098	93
Laying water pipe on West Twenty-second street....	1,680	50
Laying water pipe on Jeffery avenue.....	1,214	75
Inspection.....	1,170	31
Hardware.....	1,169	39
Laying water pipe on Forty-fourth street.....	1,118	30
Laying water pipe on Albany avenue.....	934	88
Laying water pipe on North Fifty-ninth street.....	925	32
Laying water pipe on State street.....	880	10
Stone, Sand and clay.....	852	69
Laying water pipe on Fiftieth street.....	736	14
Manhole covers.....	613	47
Laying water pipe on Forty-third street.....	602	10
Rope, hemp, cord, waste, picks, etc.	582	67
Refunds.....	558	82
Laying water pipe on alley south of Garfield blvd....	517	10
Estimate No. 2.....	476	29
Covers.....	463	92
Pipe, bolts and solder.....	458	37
Boiler repairs.....	453	50
Connecting taps.....	452	50
Pump.....	431	60
Oil and paints.....	364	52
Gate valve.....	330	00
Horse-shoeing	279	35
Laying water pipe on Robey street	274	21
Laying water pipe on Forty-eighth street.....	254	10
Laying water pipe on Wolcott street.....	233	37
Carried forward.....	$ 446,127	20

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Brought forward	$ 446,127	20
Laying water pipe on Grace street	230	52
Coal	224	22
Stationery	217	93
Wagon	211	00
Repairing and testing steam engine indicator	200	00
Cash item	198	64
Cedar blocks	187	57
Melting furnace	185	25
Requisitions	183	00
Engine and boiler	175	00
Rubber goods	165	87
Roofing	161	07
Supplies	143	58
Rents of right of way	135	00
Gravel and salt	129	00
Repairing tools	126	60
Wagon repairs	117	00
Harness repairs	113	90
Scales	112	65
Advertising	111	42
Packing	111	14
Saws	105	00
Printing	102	40
Material—asphalt, glass, etc.	88	55
Divers and apparatus	80	00
Blacksmith	76	70
Horse	75	00
Horse feed	57	60
Gas	52	15
Water damage bill	50	00
Wood, etc	41	50
Labor and material on Archer avenue pipe yard office	40	00
Leather	38	89
Blueprints, drawing paper, etc	36	52
Desk, chairs and stools	32	91
Carried forward	$ 450,444	78

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Brought forward	$ 450,444 78	
Brooms and brushes.....	26 26	
Horse and board.....	25 80	
Horse blankets.....	24 25	
Grease.....	16 34	
Ice	14 30	
Maps.....	12 00	
Sick horse.....	8 75	
Unions, etc.....	8 40	
Repairing pipe.....	6 75	
Grate bars.....	5 89	
Rubber stamps and brass checks	4 90	
Coal tar.....	4 50	
Chair.....	2 00	
Lime.....	1 50	
Lock.....	1 25	
Lanterns, globes, etc.....	90	
Meter department—stock account.....	633 95	
Tapping department—stock account	328 80	
		$ 451,571 32
Acc't Water Pipe and Special Castings.		
Water pipe and special castings		75,897 07
Acc't Repair and Maintenance.		
Labor	$ 347,934 95	
Teaming	12,940 04	
Rogers Park Water Co.....	4,700 44	
Hydrant rentals.....	4,071 66	
Lumber	2,087 65	
Services.....	470 07	
Castings.....	192 05	
Taxes on pump site.....	76 87	
		372,473 73
Carried forward.....		$ 899,942 12

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Brought forward.....		$ 899,942 12
Acc't Water Office Expense.		
Stamps.....	$ 7,500 00	
Car tickets	3,902 37	
Stationery.....	1,932 04	
Telephone service.....	270 00	
Hardware.....	224 34	
Supplies.....	155 20	
Fan and motor.....	145 00	
Printing.....	119 00	
Cash item	111 47	
Shortage.....	99 35	
Repairs to broken tap.....	56 25	
Laying water pipe.....	49 91	
Hauling.....	39 00	
Matches and candles.....	30 56	
Pipe.....	15 00	
Awnings.....	13 50	
Time service	12 00	
Plumbing.....	10 55	
Maps.....	9 60	
City directory	7 50	
Rent, repairing typewriter...	6 60	
Repairing vaults.....	3 00	
Changing combination of vault.....	1 50	
		14,713 74
Acc't Water Fund Proportion of Office Salaries and Expense.		
Salaries of employes.....	$ 31,345 36	
Pure Water Commission....	3,554 00	
Cash items and requisitions.	3,253 98	
Advertising and printing...	3,308 96	
Stationery.....	2,459 39	
Car tickets	1,183 95	
Experts' inspection of pumps	1,000 00	
Supplies and sundries.....	685 88	
Fixtures in water office.....	590 00	
Delivering water at Chicago Lawn.....	330 00	
Carried forward.....	$ 47,711 52	$ 914,655 86

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Brought forward	$ 47,711 52	$ 914,655 86
Blue prints	267 09	
Telephone.....	244 92	
Services.....	724 39	
Typewriters and rent of typewriters and supplies.....	134 80	
Fourteen directories.....	105 00	
Boarding city horses.....	66 50	
Expert services.....	50 00	
Horse killed.....	50 00	
Redemption of water certificates.....	50 00	
Buggy	35 00	
Hardware	15 27	
Valves, etc	13 50	
		49,467 99

Acc't Two-Mile Crib.

Labor	$ 7,514 66	
Tug service.....	3,335 00	
Piles (oak).....	424 34	
Coal.....	326 75	
Lumber	287 90	
Labor and material.....	286 40	
Diver.....	195 00	
Building bridge and repairs.	188 20	
Oil.....	87 65	
Pile Driving	84 00	
Hardware	34 52	
Sundry supplies	137 22	
Roofing.....	28 00	
Cement.....	5 00	
Glass.....	3 70	
		12,938 24

Acc't Four-Mile Crib.

Labor	$ 4,013 78	
Tug service	3,345 00	
Coal	291 00	
Bell.....	217 91	
Carried forward	$ 7,867 69	$ 977,062 09

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Brought forward	$	7,867 69	$	977,062 09
Pile driving.....		84 00		
Hardware		38 83		
Sundry supplies.....		68 51		
Labor and material.....		20 00		
Oil and paints.....		17 26		
Lumber.....		5 57		
Blankets.....		6 38		
Bridge repairs.....		5 91		
				8,114 15

Acc't Lake View Crib.

Labor.....	$	3,720 23		
Cable		3,410 59		
Tug service.....		3,317 00		
Diver.....		195 00		
Pile driver.....		124 00		
Sundry supplies.....		165 97		
Coal.....		110 25		
Board.....		58 75		
Hardware		40 58		
Oil and paints		27 37		
Blankets.....		16 03		
Bridge repairs.....		15 39		
Matches.....		1 40		
Glass.....		2 38		
				11,204 94

Acc't Hyde Park Crib.

Labor	$	2,676 58		
Estimates		3,771 24		
Tug service.....		3,049 00		
Heating plant.....		1,500 00		
Coal.....		291 25		
Bell		234 10		
Sundry supplies.....		128 88		
Pile driving.....		306 00		
Sail boat.....		75 00		
Hardware		62 45		
Waste packing.....		30 00		
Carried forward.....	$	12,124 50	$	996,381 18

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Brought forward	$ 12,124 50	$ 996,381 18
Oil	19 66	
Bed springs	16 00	
Services—inspection	16 00	
Lumber	11 04	
Extra soot door	10 00	
Advertising	4 62	
		12,201 82

Acc't Carter H. Harrison Crib.

Anchor legs, etc	$ 375 84	
Casting and hopper	261 40	
		637 24

Acc't North Pump. Works.

Labor	$ 53,842 83	
Hardware	604 34	
Rubber goods	250 50	
Steam fitting	91 75	
Lumber	353 91	
Iron stairs	130 00	
Brasses	68 50	
Gaskets	78 87	
Oils, paints, grease and tallow	1,771 98	
Furnace	11 14	
Repairing valves	42 00	
Ice	47 05	
Engine repairs	160 27	
Machine fittings	285 00	
Repairing tower	31 69	
Rocker bars	8 50	
Teaming	855 75	
Forge, etc	24 05	
Packing, waste, etc	532 94	
Grate bars	116 90	
Bridge repairs	3 47	
Labor and material	2,860 43	
Pump supplies, sundries	443 33	
Polish	39 50	
Telephone	125 00	
Carried forward.....	$ 62,779 70	$1,009,220 24

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Brought forward	$ 62,779 70	$1,009,220 24
Pump repairs.....	453 95	
Sprinkling.....	250 00	
Iron bars.....	325 29	
Steel castings.....	390 90	
Valves, etc.....	294 89	
Cement and sand, lime and brick, stone and clay.....	534 30	
Coal scales....	145 00	
Coal.....	94,869 58	
Compound	130 02	
Plumbing.....	51 30	
Gas.....	921 80	
Stationery	14 00	
Glass.....	43 99	
Boiler repairs and testing boilers	924 83	
Roofing	270 79	
		162,400 34

Acc't South Pump. Works.

Labor	$ 37,815 13	
Steel plates.....	111 00	
Packing and waste.....	539 08	
Lumber	43 93	
Coal.....	22,169 20	
Tubes and bushings.....	36 00	
Gas.....	616 20	
Compound	109 43	
Pump lubricator.....	300 00	
Brick, cement and lime....	106 10	
Soap powder.....	60 41	
Glass, etc.....	26 97	
Governors, feed pumps, etc.	177 40	
Gaskets	176 23	
Tees, unions.....	14 15	
Polish	36 30	
Rubber goods....	57 61	
Boiler tubes.....	352 80	
Grate bar.....	46 53	
Carried forward.....	$ 62,794 47	$1,171,620 58

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Brought forward	$	62,794	47	$1,171,620 58
Valves, nipples, etc.....		158	57	
Labor and material.....		835	71	
Oil and paints, grease.....		549	44	
Ice		20	80	
Repairing furnace.....		42	00	
Repairing boiler and testing.		584	34	
Steam fitting..		608	99	
Hardware		53	21	
Teaming.....		195	00	
Pump supplies.....		38	00	
Blue prints		16	90	
Repairing valves		49	50	
Repairing scales.....		2	00	
Sundry supplies.....		324	29	
Advertising.....		124	75	
				66,397 97

Acc't West Pump. Works.

Labor	$	36,968	26	
Paints, oils, tallow, grease, etc.		878	43	
Compound		211	57	
Engine repairs		128	95	
Waste, packing, etc.....		296	42	
Lumber		34	63	
Soap powder.....		25	70	
Coal		35,466	07	
Polish.....		22	00	
Gaskets		43	50	
Engine fittings		44	11	
Boiler repairs.....		308	32	
Gas.....		268	30	
Sand, lime, brick.....		117	30	
Electric power and supplies.		87	95	
Blacksmithing		48	52	
Testing boiler.....		83	33	
Glass		29	40	
Hardware		146	03	
Repairing scales		102	32	
Ice		69	43	
Carried forward.....	$	75,330	54	$1,238,018 55

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Brought forward.....	$ 75,330 54	$1,238,018 55
Labor and material.....	82 57	
Machinist	121 15	
Valves, nipples.....	564 99	
Sundry supplies	471 24	
		76,570 49
Acc't Norwood Park Pump. Works.		
Labor	$ 2,479 90	
Engine repairs	64 85	
Coal.....	542 76	
Hardware	29 78	
New boiler	2,300 00	
Compound	26 50	
Stone, sand and cement....	17 17	
Valves	3 20	
Oils	40 42	
Lumber and nails	55 83	
Waste and packing	11 43	
Labor and material.....	401 93	
Sundry supplies	116 63	
		6,090 40
Acc't Central Pump. Works.		
Labor.....	$ 27,176 51	
Coal	18,652 50	
Packing, waste, etc	584 83	
Labor and material.....	295 68	
Boiler repairs.....	862 39	
Brick, cement, lime, fire clay.	116 05	
Glass	38 85	
Machinist	205 47	
Grate bars, etc.....	289 67	
Ice	27 40	
Soap powder	42 18	
Gas.....	1,134 80	
Teaming	390 00	
Tees, unions.....	2 39	
Hardware	211 61	
Carried forward.....	$ 50,030 33	$1,320,679 44

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Brought forward	$ 50,030 33	$1,320,679 44
Blacksmithing	423 10	
Rubber goods.....	88 35	
Pipe, etc	7 85	
Paints	763 86	
Valves, nipples.....	163 31	
Steam fittings.....	71 53	
Roofing	238 35	
Compound	42 71	
Polish.....	27 00	
Boiler fixtures	101 25	
Oil pump.....	40 00	
Lumber.....	102 13	
Sundry supplies	331 26	
		52,431 03

Acc't Sixty-eighth Street Pump. Works.

Labor	$ 31,388 94	
Lubricating oil.....	618 67	
Packing, waste, rope, etc...	850 38	
Boiler repairs.....	343 59	
Grate bars.....	23 36	
Labor, repairs	45 57	
Ice	38 43	
Tees, unions.....	26 45	
Compound	36 04	
Repairing roof	13 01	
Grease.....	27 59	
Inspection.....	90 00	
Hardware	304 26	
Valves and nipples	2,914 33	
Lumber	106 10	
Lime, cement, sand, brick..	655 19	
Paints, oils	57 2	
Polish	26	
Machinery	4	
Soap powder.....		
Wood.....		
Fuel oil		
Coal.....		
Carried forward	$	

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Brought forward....	$ 68,257 26	$1,373,110 47	
Rubber goods.....	14 46		
Furnace fittings	480 00		
Air pumps.....	30 15		
Diver.....	79 50		
Blue prints	24 60		
Cylinder	85 50		
Steel, etc.....	70 87		
Plumbing	22 05		
Glass	15 20		
Gaskets	23 50		
Advertising.....	88 02		
Sundry supplies.....	482 44		
		69,673 55	
Acc't Washington Heights Pump. Works.			
Labor	$ 3,331 55		
Tank roof.....	210 00		
Paints, oils.....	56 80		
Packing.....	15 60		
Hardware	41 33		
Polish.....	1 00		
Labor and material.....	13 77		
Pump fixtures.....	3 40		
Coal	1,435 10		
Valves, etc.....	63 19		
Steam fitting.....	3 26		
Sand, cement..... ...	42 60		
Sundry supplies.....	20 72		
		5,238 32	
Acc't Lake View Pump. Works.			
Labor.....	$ 25,773 56		
Material and labor on engine and foundation.....	43,729 66		
Steam fitting.....	114 14		
Engine oil.....	705 94		
Plumbing.....	22 00		
Meals.....	85 00		
Grease.....	109 08		
Carried forward....	$ 70,539 38	$1,448,022 34	

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Brought forward	$ 70,539 38	$1,448,022 34
Waste, packing, etc.....	484 18	
Pump repairs.....	96 23	
Coal.....	20,408 68	
Consulting engineer.....	321 62	
Pipe covering	25 80	
Valves.....	92 83	
Grate Bars	78 77	
Pump supplies.....	206 06	
Soap powder and oils and paints.....	418 78	
Roofing.....	219 00	
Gas.....	246 10	
Repairing furnace.....	121 44	
Electric power	25 44	
Hardware	300 87	
Lumber	64 24	
Inspection.....	548 37	
Polish.....	27 25	
Rubber goods.....	83 13	
Engine repairs.....	350 72	
Brick, clay, sand, cement, lime, gravel.....	566 32	
Tubes and bushing.....	91 50	
Boiler repairs and foundation	531 00	
Labor and material.....	188 64	
Telephone.....	125 00	
Tees, unions.....	32 91	
Sundry supplies.....	121 83	
		96,316 09

Acc't Springfield Ave. Pump.—Southwest Pump.

Estimates.....	$ 3,181 28	
Excavation.....	841 55	
Inspection.....	226 53	
Sundry supplies.....	49 75	
Blue prints.	28 92	
Salaries.....	448 00	
		$ 4,776 03
Carried forward		$1,549,114 46

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Brought forward		$1,549,114 46
Central Park Ave. Pump.—Northwest Pump.		
New engine.....	$ 120,119 09	
New pump.....	6,208 59	
Excavation	2,243 03	
Constructing engineer.....	690 21	
Inspection.....	480 80	
Cash item.....	51 39	
Services.....	448 00	
Blue prints.....	28 92	
		130,270 03
Acc't Water Meter and Private Works.		
Labor	$ 41,023 71	
Meters.....	21,427 47	
Meter refund.....	3,251 19	
Labor and material.....	578 23	
Nipples, valves, etc.....	484 82	
Counters, checks, etc.....	426 36	
Sawdust and lumber.....	338 73	
Meter covers.....	290 05	
Sundry supplies.....	16 33	
Meter frames and glasses...	258 45	
Sundries.....	184 22	
Repairing meter.....	110 85	
Stationery.....	98 75	
Hardware	41 78	
Repairing buggy.....	21 00	
Harness.....	20 00	
Drills, etc.....	17 18	
Meter seals.....	17 00	
Packing.....	11 40	
Matches and Candles.....	10 00	
Seal and wax.....	8 80	
Putty, oils, etc.....	3 30	
Solder.....	2 15	
Hand saws, etc.....	2 10	
Felt.....	1 63	
Gasoline and can.....	90	
Brass meter rings, etc.....	719 52	
		69,365 92
Carried forward.....		$1,748,750 41

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Brought forward		$1,748,750 41
Acc't Water Works Shops.		
Labor	$ 44,037 59	
Hardware	1,509 95	
Castings.....	7,074 20	
Hydrants and valves.....	3,047 52	
Lead	1,102 95	
Machinery and shafting....	354 78	
Pipes, bolts, etc.....	149 63	
Lumber	438 41	
Boiler repairs.....	62 00	
Packing, etc.....	163 48	
Brass rods.....	13 97	
Labor and material.....	61 33	
Gear wheels.....	25 94	
Oils, etc.....	98 16	
Rubber goods.....	528 92	
Meter caps.....	40 00	
Stationery....	97 16	
Sundry supplies—ice, etc...	462 58	
Coal	574 75	
Teaming.....	72 15	
Gas.....	165 80	
Blacksmithing.....	3 75	
Taxes on lots.....	162 82	
Grease extractor.....	15 30	
Wheel dresser.....	16 00	
Gaskets	109 45	
		60,388 59
Acc't Northwest Land Tunnel.		
Contractors' estimates.....	$ 519,546 74	
Extras, as per contract.....	35,116 00	
Sewer construction.....	1,464 15	
Rent.....	1,443 98	
Services.....	982 07	
Labor and material.....	632 74	
Borings	613 90	
Telephone.....	138 51	
Drainages	135 00	
Carried forward.....	$ 560,073 09	$1,809,139 00

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Brought forward....	$ 560,073 09	$1,809,139 00
Rebuilding.....	120 00	
Hardware	98 90	
Sundries	80 68	
Supplies	74 50	
Stationery	73 84	
Cash item	68 00	
Scales.....	58 70	
Lumber	58 53	
Desk and chairs.....	45 00	
Blue prints.....	44 36	
Oils and paints.....	35 74	
Plumbing.....	22 00	
Horse feed.....	20 00	
Printing.....	13 00	
Interest on mortgages.....	17 50	
Gas.....	12 52	
Teaming.....	11 50	
Advertising.....	8 00	
Glass.....	4 75	
Brass rods.....	75	
		560,941 36
Acc't Western Ave. Tunnel.		
Labor and material.....		362 51
Acc't Water Permits.		
Salaries.....	$ 44,807 92	
Ferrules.....	2,102 28	
Repairs to taps, drills, etc..	1,795 95	
Valve bodies, etc.....	340 74	
Lowering pipes, etc.....	150 00	
Stationery.....	95 34	
Hardware	196 36	
Tapes.....	27 52	
Plumbing.....	114 16	
Washers....	17 54	
Oil.....	5 05	
Teaming	39 00	
		49,691 86
Carried forward.....		$2,420,134 73

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Brought forward		$2,420,134 73
Acc't Sixty-eighth Street Tunnel.		
Contractor's estimates.....	$ 87,313 46	
Ross & Ross, damage.....	10,841 20	
Labor and material.....	2,092 00	
Tug service.....	200 00	
Services.....	4,787 94	
Pile driving.....	84 00	
Cash item.....	85 00	
Divers, etc....	40 00	
Hardware.....	13 25	
Sundry supplies.....	7 55	
		105,464 40
Acc't Northeast Lake Tunnel.		
Contractor's estimates.....	$ 184,035 53	
Tug service.....	200 00	
Salaries.....	12,763 53	
Roofing.....	62 50	
Inspection—crib contract...	56 00	
Hardware	3 95	
Supplies.....	2 45	
		197,123 96
Acc't Water Office Salaries.		
Salaries		202,897 85
Acc't New Repair Shop.		
Building estimates.....	$ 9,875 00	
Painting.....	747 00	
Blacksmith	51 00	
Oil	22 12	
Lumber	94 62	
Heating plant.....	2,375 00	
Valves.....	33 09	
Hardware	380 54	
Cinders	235 95	
Whitewashing.....	85 00	
Moving water works shop...	798 00	
Fittings for shaft and boiler.	86 64	
Belting.....	306 73	
Engine.....	1,500 00	
Carried forward	$ 16,590 69	$2,925,620 94

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Brought forward.....	$ 16,590 69	$2,925,620 94	
Coal.....	57 45		
Plumbing.....	1,072 92		
Labor and material.....	459 85		
Stone.....	42 30		
Asbestos.....	33 45		
Steam separator.....	48 80		
Furniture.....	44 00		
Glass.....	6 00		
Advertising.....	5 10		
Sundry supplies.....	59 54		
Teaming.....	38 00		
Salaries.....	1,066 87		
		19,524 97	
Acc't Intercepting Sewers.			
Consulting engineer.....	$ 185 48		
Boring holes.....	499 00		
Salaries.....	537 90		
		1,222 38	
Acc't Hydrant Wrenches.			
Refunds.....		1,005 00	
Acc't Other Expenses.			
Miscellaneous items.....	$ 555 85		
Water loan bonds, 6%.....	132,000 00		
Water loan interest.....	171,954 67		
Town of Lake water loan bonds, 5%.....	15,000 00		
Norwood Park bonds.....	4,500 00		
Water loan bonds.....	2,700 00		
Refunding advances to lay water pipe.....	44,889 41		
Refunding duplicate payments.....	8,477 22		
Total expenses.....		380,077 15	
Balance to credit of Water Fund, January 1, 1898....		63,920 64	
			$3,391,371 08

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SEWER FUND.

RECEIPTS.

Amount received from house drain permits		$ 23,052 39	
Amount received from drain layers' licenses		1,370 00	
Amount appropriated by City Council for repairing and cleaning sewers and catch-basins	$ 125,000 00		
Amount appropriated for sewer office salaries	25,040 00		
Amount appropriated for extension of Fifty-first street pile outlet	3,950 56		
Amount appropriated for Sixty-ninth street sewer pump	8,115 00		
Amount appropriated for Seventieth street sewer pump	7,615 00		
Amount appropriated for Seventy-third street sewer pump	7,615 00		
Amount appropriated for Kensington sewer pump	7,615 00		
Amount appropriated for Woodlawn sewer pump	8,115 00		
Amount received from private parties for labor and material	6,349 57		
Received from special assessment for work and inspection	100,387 98		
		299,803 11	
Total receipts			$ 324,225 50

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EXPENSES.

Sewers North Division	$ 2,371 11	
Sewers South Division	5,421 63	
Sewers West Division	3,971 22	
House drains	28,955 62	
Cleaning sewers and catch-basins	91,414 89	
Repairing sewers and catch-basins	46,764 29	
Intersections	43,887 00	
Sewer office expense	2,077 30	
Sewer office salaries	23,872 09	
Fifty-first street pile outlet	3,830 56	
Salaries of inspectors (special assessment work)	37,055 35	
Miscellaneous items	757 58	

OTHER EXPENSES.

Sixty-ninth street sewer pump	9,718 35	
Seventieth street sewer pump	6,575 74	
Seventy-third street sewer pump	5,388 66	
Ninety-fourth street sewer pump	77 82	
Woodlawn sewer pump	8,878 83	
Kensington sewer pump	3,207 46	
Total		$ 324,225 50

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APPROPRIATION FUND.

EXPENSES.

Acc't Improved Streets.

Labor	$ 101,791 27	
Repaving	23,102 62	
Repairs	17,506 55	
Blocks	10,005 65	
Gravel	4,889 46	
Stone	6,031 94	
Rent	2,158 00	
Services	750 00	
Crushed stone	728 27	
Lumber	621 80	
Labor and material	405 68	
Granite blocks	351 30	
Macadam	252 50	
Lumber	246 78	
Tar	217 07	
Supplies	212 14	
Bonds	140 40	
Tar kettles	113 80	
Advertising	71 69	
Cinders	69 00	
Coal	62 13	
Hardware	61 87	
Cement	59 49	
Teaming	48 75	
Construction	43 75	
Removing poles	40 00	
Cash	33 85	
Sand	14 00	
Brick	12 00	
		$ 170,041 71

Acc't Unimproved Streets.

Labor	$ 61,010 89	
Repairs	44,744 40	
Cedar blocks	3,572 41	
Lumber	2,859 53	
Carried forward	$ 112,187 23	$ 170,041 71

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Brought forward.....	$ 112,187 23	$ 170,041 71
Stone.....	2,219 96	
Gravel.....	1,249 40	
Coal.....	982 23	
Crushed stone.....	781 60	
Slag.....	676 00	
Hardware.....	670 01	
Macadam.....	460 90	
Rent.....	453 00	
Grading.....	308 50	
Tools and repairing tools...	208 37	
Filling.....	200 00	
Pipe.....	170 50	
Sundries.....	92 39	
Brooms.....	78 59	
Tile.....	75 30	
Brick bats.....	50 00	
Labor.....	19 88	
Salt.....	15 75	
Oil, waste, etc.....	14 48	
		120,914 09

Acc't Sidewalk Repairs.

Labor.....	$ 45,341 78	
Lumber.....	16,949 29	
Cement walk.....	1,834 28	
Hardware.....	1,202 33	
Refunds.....	275 00	
Rebuilding area wall.....	210 00	
Services.....	59 81	
Cash.....	39 00	
Freight.....	32 40	
Coal.....	22 75	
Resetting curb.....	20 00	
Repairs.....	2 00	
Sundries.....	1 94	
		65,990 58
Carried forward.....		$ 356,946 38

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Brought forward		$ 356,946 38
Acc't Bridge Repairs.		
Labor.....	$ 60,709 31	
Lumber	15,705 92	
Coal.....	6,762 72	
North Western avenue bridge	6,262 00	
Labor and material.....	5,838 40	
Electric power and supplies.	4,148 66	
Painting.....	3,233 19	
Driving piles.....	3,225 14	
Repairs.....	2,227 16	
Refund.....	2,200 00	
Labor and services.....	2,138 16	
Steel, iron, etc.....	2,068 01	
Power.....	2,078 38	
Work on sundry bridges....	1,932 57	
Dredging.....	1,900 96	
Hardware.....	1,577 82	
Supplies.....	1,539 65	
Repaving	1,220 29	
Oil.....	937 60	
Paving blocks.....	924 00	
Cable.....	881 69	
Sundries.....	853 99	
Teaming.....	833 52	
Air compressor.....	725 00	
Work on Lake street bridge.	592 79	
Use of patents.....	499 00	
Rip raps	489 25	
Gas.....	228 60	
Counterweights.....	205 90	
Delay in bridge opening....	195 00	
Brick, cement, etc.....	163 85	
Packing.....	159 41	
Plumbing.....	154 69	
Steel castings	136 53	
Blacksmithing.....	129 47	
Services.....	110 00	
Stoves.....	108 55	
Bridge rollers.....	91 44	
Soda, borax, etc.....	84 80	
Carried forward.....	$ 133,273 42	$ 356,946 38

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Brought forward	$ 133,273 42	$ 356,946 38
Soap, etc.....	74 67	
Gravel.....	44 20	
Cash items	37 18	
Brooms.....	30 10	
Boiler compound.....	30 00	
Towing and wrecking.....	29 60	
Stationery.....	27 21	
Lamp sockets.....	25 20	
Tar paper.....	20 83	
Advertising.....	16 94	
Packing	3 48	
Valves, etc.....	3 17	
Car tickets.....	1 60	
		133,617 60

Acc't Street Lamp Repairs.

Labor	$ 27,941 45	
Repairs	11,008 62	
Supplies	6,623 42	
Sundries	734 08	
Lamp frames, etc.....	644 01	
Tin foil and tin.....	491 90	
Blue strips.....	229 75	
Castings.....	217 50	
Glass.....	186 00	
Telephone.....	175 00	
Hardware.....	147 99	
Globes.....	145 50	
Paints, oils, etc.....	109 18	
Car tickets.....	98 81	
Solder, lead, etc.....	70 42	
Lumber	57 84	
Domes.....	53 62	
Gas pipes, etc.....	51 46	
Coal.....	28 52	
Services.....	3 00	
		49,018 07
Carried forward.....		$ 539,582 05

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Brought forward		$ 539,582 05
Acc't North Halsted Street Bridge.		
Contract	$ 11,134 07	
Machinery, etc.....	4,769 53	
Engineering	494 20	
Machinist.....	45 00	
Labor and material.....	18 78	
Lumber	16 50	
Electric supplies.....	6 36	
Sundries.....	2 00	
Labor.....	1,415 17	
		17,901 61
Acc't Fullerton Ave. Pump.		
Labor.....	$ 6,419 64	
Coal	3,663 57	
Water grates.....	425 00	
Steam fitting.....	422 50	
Services..... ...	361 16	
Smoke preventer.....	300 00	
Repairs.....	289 61	
Oil, etc.....	258 94	
Gas.....	168 00	
Sundries.....	125 79	
Compound.....	120 12	
Brick, sand, etc.....	98 00	
Packing.....	86 38	
Valves, etc.....	56 12	
Grate bars.....	39 20	
Teaming.....	28 00	
Hardware	22 01	
Supplies.....	21 51	
Soap powder.....	18 69	
Lumber.....	15 76	
Brick	8 40	
Hose.....	5 78	
		12,954 18
Carried forward.....		$ 570,437 84

Digitized by Google

Brought forward		$ 570,437 84
Acc't Canal Pump.		
Coal.....	$ 29,718 68	
Labor and material.....	1,882 01	
Repairs	1,510 68	
Oil, etc.....	1,463 78	
Services.....	499 06	
Waste and packing.....	289 79	
Bushings, gaskets, etc.....	264 53	
Sundries.....	214 46	
Steam fitting.....	165 96	
Supplies.....	165 27	
Blacksmithing	141 50	
Hardware	133 11	
Paints and oils.....	123 38	
Compound	116 99	
Plumbing.....	96 00	
Lumber	95 53	
Brick, sand, etc.....	75 30	
New roof.....	75 00	
Soap powder....	66 41	
Grease.....	61 72	
Rubber goods.....	50 75	
Ice	45 75	
Hose	41 38	
Grate bars, etc.....	26 57	
Cash.....	1 00	
Labor.....	27,203 02	
		64,527 63
Acc't Special Assessments.		
Salaries	$ 116,604 03	
County Treasurer's commissions.....	30,890 47	
Services as Commissioners..	18,898 65	
Expert services.....	18,341 44	
Court costs.....	11,785 74	
Legal services	4,345 39	
Clerk	3,169 09	
Advertising	3,151 96	
Extra time.....	2,910 34	
Carried forward.....	$ 210,097 11	$ 634,965 47

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Brought forward	$ 210,097 11	$ 634,965 47
Stenographer	2,454 15	
Stationery	1,663 10	
Car tickets.....	1,521 94	
County Clerk	1,315 50	
Cash item.....	834 01	
Real estate expert	822 50	
Printing	805 80	
Bonds.....	625 00	
Requisitions.....	404 10	
Abstracting.....	216 00	
Telephone.....	185 00	
Books	144 39	
Refund	90 00	
Estimate.....	70 00	
Rent of volumes.....	67 15	
Inspection.....	59 00	
Maps and charts.....	42 90	
Specifications.....	42 00	
Supplies.....	16 50	
Sundries..... ...	13 95	
Messenger.....	12 90	
Hardware.....	10 92	
Repairs	6 00	
		221,519 92
Acc't Smallpox Hospital.		
Plumbing.....	$ 437 07	
Cooking utensils.....	389 50	
Repairing steam plant.....	387 00	
Painting and glazing.....	323 00	
Services...	50 00	
Covering pipes.....	48 50	
Labor.....	411 30	
		2,046 37
Acc't Chicago Harbor.		
Labor	$ 7,801 04	
Rodman..... ...	150 00	
Material.....	115 00	
Refund.....	101 50	
Carried forward.....	$ 8,167 54	$ 858,531 76

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Brought forward.....	$ 8,167 54	$ 858,531 76
Paint	6 61	
Chairs.....	4 05	
		8,178 20

Acc't Steam Roller Engineer.

Polish, waste, etc.....	$ 164 70	
Repairs.....	92 64	
Coal	79 13	
Cash.....	25 40	
Hose.....	25 32	
Sundries	23 41	
Oil, etc.....	20 46	
Valves, etc.....	13 30	
Canvas.....	10 03	
		2,691 32

Acc't Street Cleaning.

Labor.....	$ 131,258 34	
Contracts.....	135,160 59	
Van Buren street dump, labor	3,193 41	
Car tickets.....	1,582 83	
Services.....	890 80	
Telephone.....	318 71	
Brooms	317 97	
Repairs	5,377 20	
Stationery and printing	253 95	
Uniforms, patrol carts, etc..	245 90	
Lumber.....	181 96	
First district.....	104 00	
Scoops.....	72 50	
Hardware	51 66	
Blankets, etc.....	51 15	
Calcium light.....	50 00	
Teaming	43 50	
Sundries	323 26	
Coal.....	36 70	
Rubber goods.....	34 43	
Gas	33 60	
Carried forward.....	$ 279,582 46	$ 869,401 28

Digitized by Google

Brought forward	$ 279,582 46	$ 869,401 28
Team tickets, etc.....	32 50	
Advertising.....	23 84	
Boarding horse.....	18 00	
Cash.....	7 03	
		279,663 83

Acc't Scavenger Service.

Contracts	$ 137,614 73	
Agreements.....	137,431 42	
Removing garbage	6,302 06	
Disinfectant	595 08	
Teaming	594 70	
Lime	249 77	
Stationery	159 13	
Printing.....	107 95	
Labor	104 00	
Coupon books, etc.....	74 85	
Coal.....	63 20	
Hardware	60 48	
Advertising.....	42 60	
Brooms	19 00	
Garbage boxes.....	10 00	
Sundries	8 20	
Lumber	7 75	
Rope	1 82	
Cash.....	1 50	
Gas.....	1 40	
Labor.....	12,053 07	
		295,502 71

Acc't Street Permits.

Repaving.....	$ 7,722 89	
Repairing street openings...	9,102 81	
Repairs	1,103 57	
Resetting curb.....	135 00	
Labor	2,882 74	
		20,947 01
Carried forward.....		$1,465,514 83

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Brought forward			$1,465,514 83
Acc't New Bath House.			
Construction	$	4,301 25	
Plumbing		961 00	
Iron works		627 00	
Painting and glazing.....		570 43	
Heating.....		303 37	
Steam pump.....		214 00	
Gas fixtures.....		180 00	
Sundries		91 58	
Cooking utensils		80 00	
			7,328 63
Acc't Removal of Dead Animals.			
January, February and March			9,375 00
Acc't Street Privileges.			
Labor.....	$	4,291 55	
Requisitions		118 98	
Cash item		83 33	
Services.....		91 00	
			4,584 86
Acc't City Hall.			
Coal.....	$	20,237 83	
Balance 15% reserve		4,189 88	
Office fixtures.....		2,745 10	
Labor and material.....		3,923 11	
Contract, estimate No. 9....		1,533 55	
Carpets, etc.....		1,529 57	
Repairs		958 19	
Painting and calcimining...		679 72	
Oils, paints, etc.....		636 07	
Ice		629 47	
Services.....		586 41	
Sundries		565 34	
Furniture.....		529 13	
Carried forward.....	$	38,743 37	$1,486,803 32

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Brought forward	$ 38,743 37	$1,486,803 32
Electric power and supplies.	480 88	
Steam fitting.....	466 89	
Soap, soap powder, etc.....	430 43	
Elevator repairs.....	382 30	
Tile floor.....	380 00	
Lamps.....	374 23	
Hardware	337 38	
Plumbing.....	287 29	
Chandeliers, etc.....	242 20	
Lumber	239 95	
Grate bars, boiler tubes, etc.	235 76	
Repairing sidewalk.....	222 80	
Brick and fire clay.....	214 25	
Toilet paper.....	190 50	
Compound	171 39	
Packing.....	154 24	
Sand and cement.....	151 75	
Ventilating Council chamber	150 00	
Brooms and brushes.....	142 50	
Crushed stone, fire clay and brick	138 65	
Gaskets, etc.....	124 30	
Awnings	111 00	
Cleaner and cleaning walls..	99 84	
Bricklayer.....	88 00	
Belt	76 80	
Toweling.....	60 07	
Letter file.....	48 00	
Typewriter	48 00	
Cash item	43 92	
Stationery	11 50	
Disinfectant	10 38	
Gas.....	7 20	
		44,865 77
Acc't Street and Alley Cleaning, Office Salary.		
Office salaries.....		9,080 72
Carried forward. ...		$1,540,749 81

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Brought forward.....			$1,540,749 81
Acc't Ward Inspectors.			
Salaries			33,704 13
Acc't Washington Park.			
Plumbing.....	$	586 56	
Plants.....		50 00	
Cement		37 50	
Hose		10 00	
Seed.....		1 50	
Hardware		1 40	
Labor.....		425 94	
			1,112 90
Acc't Aldine Park.			
Flowers	$	20 50	
Plumbing..... ..		19 75	
Hardware		13 41	
Hose sprinkler.....		11 50	
Street washer.....		6 00	
Brooms		1 25	
Labor.....		413 50	
			485 91
Acc't Douglas Monument Park.			
Flowers	$	37 50	
Paint		6 10	
Labor.....		557 25	
			600 85
Acc't Ellis Park.			
Flowers	$	31 00	
Trees.....		70 00	
Repairing railing.....		27 00	
Hose sprinkler.....		23 00	
Paint		6 10	
Sundries		1 00	
Labor.....		460 25	
			618 35
Carried forward			$1,577,271 95

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Brought forward.....		$1,577,271 95
Acc't Shedd's Park.		
Cinders		48 50
Acc't Congress Park.		
Trees	$ 220 00	
Plumbing.....	113 80	
Hose.....	18 60	
		352 40
Acc't Lakewood Park.		
Labor and material.....	$ 12 50	
Care of park.....	40 00	
Flowers	40 00	
Plumbing.....	13 50	
		106 00
Acc't Gross Park.		
Hose	$ 15 85	
Lawn mower.....	5 71	
Paints	2 87	
Labor.....	407 00	
		431 43
Acc't Oak Park.		
Cement walk.....	$ 85 68	
Labor....	257 25	
		342 93
Acc't Green Bay Park.		
Cement walk.....	$ 383 88	
Labor.....	281 00	
		664 88
Acc't Jefferson Park.		
Plumbing.....	$ 82 59	
Hardware	11 16	
		93 75
Carri ..		$1,579,311 84

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Brought forward		$1,579,311 84
Acc't Bickerdike Park.		
Seed.....	$ 1 05	
Labor.....	230 00	
		231 05
Acc't Kedzie Park.		
Seed.....		6 05
Acc't Norwood Park.		
Flowers.....	$ 54 00	
Hose.....	9 00	
Sprinkler.....	4 55	
Cement	2 50	
Paint.....	2 45	
Labor.....	26 00	
		98 50
Acc't De Kalb Square.		
Cash.....	$ 114 75	
Trees	93 00	
Flowers	21 00	
		228 75
Acc't Holstein Park.		
Filling.....	$ 943 50	
Cash.....	1 00	
		944 50
Acc't Eldred Park.		
Gravel.....	$ 113 75	
Seed.....	1 69	
		115 44
Acc't Artesian Well and Irving Park.		
Contract.....		1,000 00
Carried forward.....		$1,581,936 13

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Brought forward....		$1,581,936 13
Acc't Public Benefits.		
Paving Duncan Park.....	$ 227 59	
Public benefits.....	52 80	
		280 39
Acc't Bridgeport Locks.		
Tender.....	$ 2,799 96	
Diving.....	230 00	
Hardware.....	2 50	
		3,032 46
Acc't House Moving Permits.		
Labor.....		1,557 96
Acc't Sewer in Eighty-ninth Street.		
Special appropriation.....		450 00
Acc't Rush Street Bridge.		
Contract.....		4,149 33
Acc't Archer Avenue Bridge.		
Soundings.....		168 75
Acc't Proportional Office Expense.		
Maps, etc.....	$ 465 46	
Cash.....	424 17	
Stationery.....	234 23	
Requisitions.....	122 96	
Boarding horse.....	32 40	
Zinc plates.....	31 50	
Sundries.....	9 75	
Printing.....	9 00	
Photo plates.....	2 50	
Horse blanket.....	1 50	
Labor.....	70 00	
		1,403 47
Carried forward.....		$1,592,978 49

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Brought forward....		$1,592,978 49
Acc't Street Department Office Expense.		
Books and stationery.....	$ 492 90	
Car tickets.....	197 66	
Fan.....	14 71	
Cash item.....	7 50	
Printing.....	5 50	
Repairs.....	4 10	
		722 37
Acc't City Engineer's Office Expense.		
Stationery.....	$ 251 04	
Car tickets.....	108 28	
Iron material.....	85 00	
Blue prints, day plates, etc.	48 21	
Telephone.....	33 75	
Cash item.....	26 80	
Map.....	20 00	
Horseshoeing.....	18 75	
Printing.....	18 00	
Services.....	5 75	
		615 58
Acc't Map Office Expense.		
Maps.....	$ 164 42	
Stationery.....	162 25	
Rebinding.....	57 50	
Prints.....	50 13	
Sundries.....	39 20	
Printing.....	4 00	
Cash.....	1 65	
		479 15
Acc't Janitors' Salaries.		
Salaries.....		44,588 70
Carried forward.....		$1,639,384 29

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Brought forward....	**$1,639,384 29**
Acc't Bridge Telephone Operators' Salaries.	
Salary.....	**5,850 35**
Acc't Street Office Salaries.	
Salaries.....	**13,460 03**
Acc't City Engineer's Office Salaries.	
Salaries.....	**11,235 34**
Acc't Map Office Salaries.	
Salaries.....	**16,075 61**
Acc't Proportional Office Salaries.	
Salaries.....	**12,201 11**
Acc't Street Opening and Obstruction Inspectors' Salaries.	
Salaries.....	**7,184 60**
Acc't Vessel Dispatcher's Salary.	
Salaries.....	**2,206 73**
Acc't Bridge Tenders' Salaries.	
Salaries.....	**89,522 85**
Acc't Public Library.	
Labor..	**595 00**
C	**$1,797,715 91**

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Brought forward....		$1,797,715 91	
Acc't Deposit for Inspection.			
Labor.....	$ 1,872 00		
Total expenses.....		$1,799,587 91	
Transferred.....		7,520 39	
			$1,807,108 30

SPECIAL DEPOSIT FUND.

Balance carried forward from 1896.....		$ 52,638 97	
RECEIPTS.			
Street permit depositors....	$ 67,216 51		
Corporation account.....	28,369 85		
Badge account.....	1,221 00		
		96,807 36	
			$149,446 33
EXPENSES.			
Suspense Account.			
Refund.....		$ 25 96	
Acc't Street Permit Deposits.			
Rebates.....	$ 61,355 12		
Work on street permits.....	8,926 49		
Permits	4,285 65		
Repairing street openings, etc.	2,353 53		
Cash.....	1,396 90		
Labor.....	1,328 75		
		79,646 44	
Acc't Sewer Construction Advance.			
Refund.....		1,348 00	
Carried forward.....		$ 81,020 40	

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Brought forward....		$ 81,020 40	
Acc't Corporation.			
Refund.....	$ 1,899 53		
Deposits.....	1,600 63		
Building sewer.....	799 00		
Work on Huron street.....	473 89		
Engineer and inspector.....	137 00		
Services.....	126 00		
Sub. inspection.....	96 25		
Labor.....	30,890 87		
		35,623 17	
Acc't Badge.			
Refunds.....		1,019 00	
			$117,662 57

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TRIAL BALANCE.

LEDGER, DEPARTMENT OF PUBLIC WORKS, CHICAGO, DECEMBER 31, 1897.

	Dr.	*Cr.*
Water fund	$ 63,920 64	
Water Works	26,926,142 17	
Water Works, income		$44,997,210 99
Water fund, general taxes		2,713,878 53
Annexed territory		197,525 48
Water loan bonds, 4 per cent		3,191,500 00
Water loan bonds, $3\frac{65}{100}$ per cent		332,000 00
Water loan bonds, 3½ per cent		333,500 00
Water loan bonds, canceled		1,516,900 00
Water loan, interest	8,096,775 32	
Water loan bonds, Hyde Park 5 per cent.		50,000 00
Water loan bonds, Town of Lake 5 per cent		75,000 00
Water Works, expense and repair acc't.	18,768,748 91	
Water loan bonds, Lake View 4 per cent.		50,000 00
Water loan bonds, Lake View 5 per cent.		23,000 00
J. W. Lyons, cashier	2,000 00	
Meter Department, stock account	6,114 37	
Water Works shop, stock account	7,662 00	
Tapping Department, stock account	3,687 10	
Advances to lay water pipe		392,478 69
Hydrant wrenches		2,056 82
Annexed territory, sewers		2,614,224 75
Sewers constructed by Special Assessment		7,172,530 98
Sewers, North Division	2,823,013 69	
Sewers, South Division	7,242,995 15	
Sewers, West Division	7,684,913 41	
Sewerage loan bonds, 4 per cent		2,117,500 00
Sewerage loan bonds, 7 per cent		13,000 00
Carried forward	$71,625,972 76	$65,792,306 24

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Brought forward.....	$ 71,625,972 76	$ 65,792,306 24
Sewerage loan bonds, 4½ per cent.....		489,500 00
Sewerage loan bonds canceled.....		380,000 00
Sewerage fund, general taxes and construction		4,933,532 48
Sewerage maintenance account.....		37,734 04
Sewer stock account	7,100 00	
Appropriation fund.....		1,500 00
L. E. Gosselin, cashier.....	1,500 00	
Special deposit fund..... ...	31,783 76	
Suspense account		4,829 83
Street Engineers' permit.....		134 00
Street permit depositors.....	688 41	
Advances to construct sewers.....		11,083 37
Corporation account		15,516 97
Badge account		908 00
	$ 71,667,044 93	$ 71,667,044 93

Respectfully submitted,

LOUIS E. GOSSELIN,

Book-keeper Dept. of Public Works.

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